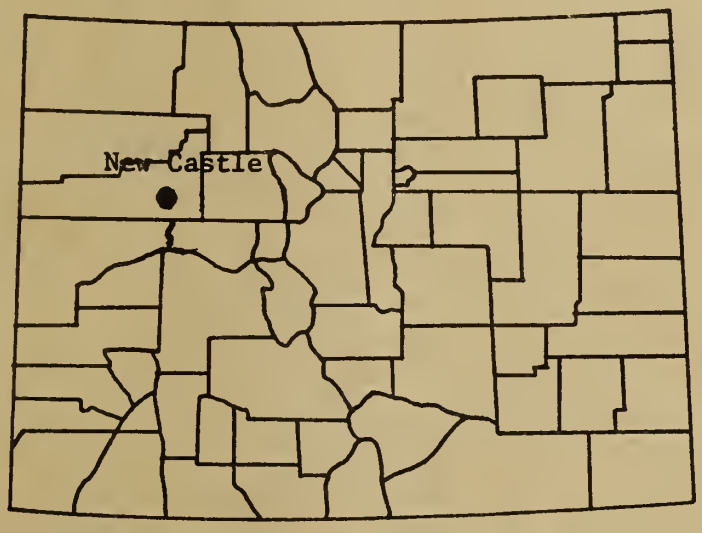
FLOOD PLAIN MANAGEMENT STUDY

COLORADO RIVER TRIBUTARIES

PORCUPINE CREEK, BEAVER CREEK, MAMM CREEK, DRY HOLLOW CREEK, DIVIDE CREEK, GARFIELD CREEK, ALKALI CREEK, SOUTH CANYON CREEK, CANYON CREEK, ELK CREEK



Prepared by the
U.S. Department of Agriculture
Soil Conservation Service
Denver, Colorado
in cooperation with the
Colorado Water Conservation Board
Town of New Castle
and Garfield County, Colorado
July 1986

PREFACE

This report includes information on the flood hazard areas along 10 Colorado River Tributaries in the vicinity of Glenwood Springs and New Castle, Colorado.

Because of the potential flood damages, detailed flood hazard studies have been recognized as an essential item in guiding the use of flood plains. The purpose of this report is to provide adequate mapping and data for implementing flood plain management programs.

Included in the report are information on past floods, the potential for future floods, flooded area maps, water surface profiles, selected cross sections, peak discharge data, and recommendations for reducing potential flood damages.

The Soil Conservation Service conducted the technical studies and prepared the report. These services were carried out in accordance with the Plan of Work of February 1984.

The assistance and cooperation provided by the Colorado Water Conservation Board, Town of New Castle and Garfield County are appreciated and gratefully acknowledged. Financial assistance provided by the Board, the town and county included funds for photogrammetric maps, and cross section data.

The survey, hydrologic, hydraulic, and other pertinent data and computations are on file with the U.S. Department of Agriculture, Soil Conservation Service, 2490 West 26th Avenue, Denver, Colorado 80217, telephone (303) 964-0295. Additional copies of this report may be obtained from the Colorado Water Conservation Board, or the Soil Conservation Service.

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INTRODUCTION

This flood plain management report was prepared by the U.S. Department of Agriculture, Soil Conservation Service, in cooperation with the Colorado Water Conservation Board, Town of New Castle and Garfield County. Interpretations of the flood plain management study and recommendations to reduce damages are included; however, it is beyond the scope of this report to provide detailed proposals or plans to rectify the flooding problems.

Objectives

The objective of this study is to provide flood plain management information and mapping to the town of New Castle and Garfield County for use in implementing flood plain management programs which will minimize potential flood losses. Included in the report are engineering and hydrologic data which will facilitate the development of a flood plain management plan, road and bridge designs, and flood control measures (if needed).

Authority

This study was requested by the town of New Castle and Garfield County through the Colorado Water Conservation Board (CWCB). The CWCB is the state coordinator for all flood plain information studies and is responsible for setting priorities and scheduling these studies. The CWCB and the Soil Conservation Service entered into a Joint Coordination Agreement for flood hazard analyses in January 1972 (revised November 1978). The Plan of Work for the Study was prepared in February, 1984.

Section 37-60-106(1)(c), Colorado Revised Statutes, authorizes the Colorado Water Conservation Board "to designate and approve storm or floodwater runoff channels or basins, and to make such designations available to legislative bodies of cities and incorporated towns, to county planning commissions, and to boards of adjustment of cities, incorporated towns, and counties of this state." The Board provides assistance to local governments in development and adoption of effective floodplain ordinances. In addition, the Board will provide technical assistance to local entities during the performance of floodplain information studies within Colorado. Presently, direct financial assistance for the performance of floodplain studies is no longer available from the board.

Section 30-28-111 C.R.S. for county governments and Section 31-23-301 C.R.S. for municipal governments of the Colorado Revised Statutes, states: The cities, incorporated towns, and counties within the study area may provide zoning regulations: "...to establish, regulate, restrict, and limit such uses on or along any storm or floodwater runoff channel or basin that has been designated and approved by the Colorado Water Conservation Board, in order to lessen or avoid the hazards to persons and damage to property resulting from the accumulation of storm or floodwaters..."

Therefore, upon official approval of this report by the Colorado Water Conservation Board, the areas described as being inundated by the 100-year flood can be designated as flood hazard areas and their use regulated accordingly by the local agencies.

Flood plain management studies are carried out by the Soil Conservation Service as an outgrowth of the recommendations in A Report by

the Task Force on Federal Flood Control Policy, House Document No. 465 (89th Congress, August 10, 1966), especially Recommendation 9(c), Regulation of Land Use, which recommended the preparation of preliminary reports for guidance in those areas where assistance is needed before a full flood plain information report can be prepared or were a full report is not scheduled.

Authority for funding flood plain management studies is provided by Section 6 of Public Law 83-566, which authorizes the U.S. Department of Agriculture to cooperate with other federal, state and local agencies to make investigations and surveys of the watersheds and rivers and other waterways as a basis for the development of coordinated programs. In carrying out flood plain management studies, the Soil Conservation Service is being responsive to Executive Order 11988, entitled "Flood Plain Management", and Executive Order 11990, entitled "Protection of Wetlands" (both effective May 24, 1977).

DESCRIPTION OF THE STUDY AREA

Basin Characteristics

This study involves 10 tributaries to the Colorado River totaling about 27 miles of stream. Two of the tributaries are adjacent and located north of the Colorado River. Their northern boundaries reach an elevation of about 10,000-11,000 feet near the Garfield-Rio Blanco County line in the White River National Forest. These tributaries flow in a southerly direction to the Colorado River at an elevation of about 5,500-5,600 feet.

The remaining 8 adjacent tributaries are south of the Colorado River. Their southern boundaries reach an elevation of about 9,000-10,000 feet with parts of their drainages extending into Mesa County. These tributaries flow in a northerly direction to the Colorado River at an elevation of about 5,200-5,600 feet.

The topography is primarily plateau-like table land deeply cut by watercourses which form steep canyons. The region is rich in coal and oil shale deposits.

The climate of the area is influenced by Pacific storm systems that move from west to east. The nearest national weather station, representative of the lower part of the basin, is at Glenwood Springs. The mean annual temperature is 48°F with about 138 days of growing season between the spring and fall 32°F frost occurrences. The mean annual precipitation is just over 16 inches. This increases to about 40 inches at the higher elevations of the northern tributaries and 30 inches for the southern tributaries. Wintertime precipitation is usually in the form of snow during October to early April.

The soils include Mollisols at the higher elevations in the upper basin and Aridisols and Entisols in the lower part of the basin. Fluvents are dominant adjacent to stream channels. The geologic formations include the Tertiary Green River, which contains oil shale deposits, and the Wasatch.

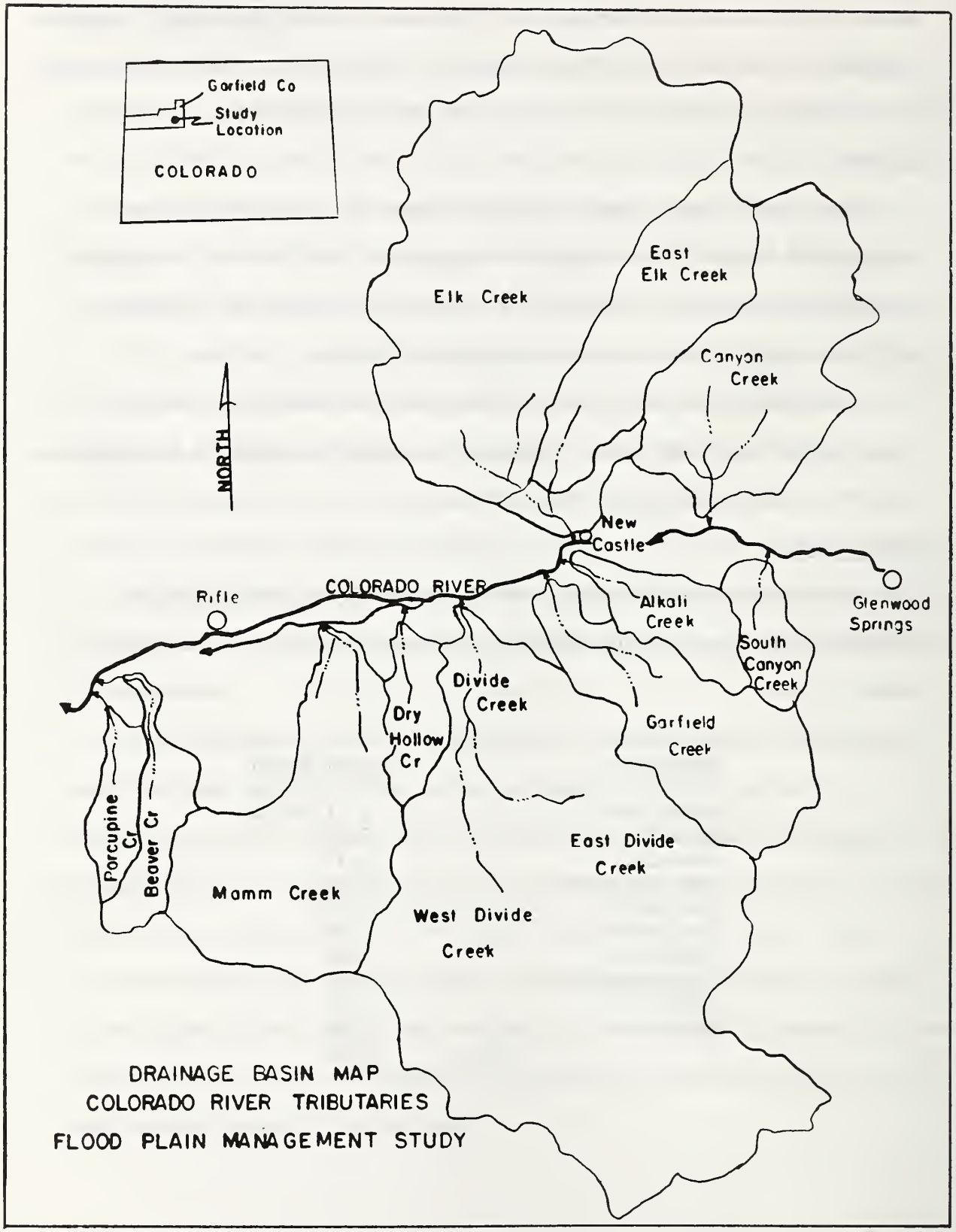
The higher ridges have conifer and aspen while lower areas have juniper and pinyon interspersed with sagebrush. Willows and cottonwoods grow along the streams. There is a considerable amount of irrigated cropland throughout the larger tributary watersheds.

The town of New Castle, at the mouth of Elk Creek, is the only community in the study area. There are scattered residential and business properties along several of the tributaries.

Study Limits

The area of study includes the tributary flood plains from the Colorado River upstream the Channel distances shown in the following table:

Tributary	Stream Reach
Porcupine Cr.	1.11 miles
Beaver Cr.	1.36
Mamm Cr.	2.57
Dry Hollow Cr.	2.16
Divide Cr	5.61
Garfield Cr.	1.99
Alkali Cr.	1.82
South Canyon Cr.	3.16
Canyon Cr.	1.21
Elk Cr.	6.01
Total	27.00


Garfield Co
Study Location
COLORADO
NORTH
Elk Creek
East Elk Creek
Canyon Creek
New Castle
COLORADO RIVER
Rifle
Glenwood Springs
Alkali Creek
South Canyon Creek
Divide Creek
Dry Hollow Cr
Garfield Creek
Porcupine Cr
Beaver Cr
Mamm Creek
East Divide Creek
West Divide Creek
DRAINAGE BASIN MAP
COLORADO RIVER TRIBUTARIES
FLOOD PLAIN MANAGEMENT STUDY

Natural and beneficial Flood Plain Values

Flood plains along the various tributaries contain areas of irrigated pasture and hayland interspersed with areas of natural vegetation. The flood plain vegetation consists of a variety of forbs, grasses, sedges and rushes interspersed with cottonwoods, willows and siberian elm. The meandering channel provides an interesting diversity in landscape and vegetation. This diversity enhances the visual aestheties and wildlife habitat values in the area.

These flood plains support a variety of wildlife species such as: mule deer, coyote, cottontail, red-winged blackbird, blue herron, song sparrow, black-headed grosbeak, red-tailed hawk, golden eagle, bald eagle, Canada goose, mallard and many other species of wildlife. These reparian areas are very important in the arid regions of Colorado. The proximity to water and robust vegetation supported by the water regime attract more species of wildlife to this habitat type than any other in western Colorado.

RELATED FLOOD STUDIES

The Corps of Engineers, Sacramento District, prepared an Internal Official Memorandum Report "Flood Insurance Study Hydrology, Garfield and Mesa Counties, Colorado" dated November 1975. This was a relatively broad study that included drainage area vs. cubic feet per second per square mile envelope curves. The curves were intended for estimating peak discharges on streams in Garfield and Mesa Counties, Colorado, for flood insurance purposes.

The Corps of Engineers, Sacramento District, prepared a flood plain information report "Colorado River and Rifle, Government, and Hubbard Gulch Creeks" (Apr 1973). The Corps is currently involved in an additional study of the Colorado River Main Stem that extends beyond the limits of this 1973 study.

The Soil Conservation Service carried out a Flood Plain Management Study on Parachute Creek and Roan Creek (Aug 1985). The hydrology for the study included the development of a discharge-frequency-drainage area regional curve that has been used in this Colorado River Tributaries Study.

The Federal Emergency Management Agency published a flood insurance study for Garfield County, unincorporated areas (Jan 3, 1986).

FLOOD HISTORY

Major flooding along streams in this study is caused by rapid melting of the mountain snowpack during late May to early July as well as summer rainstorms. There is also the potential for flooding as a result of rainfall occurring on melting snow. The snowmelt floods are characterized by moderate peaks, large volumes, and long durations. The summer floods have characteristics of high peaks, short flow durations, and relatively small volumes.

The size of drainage area varies from Porcupine Creek (9.7 square miles) to Elk Creek (177 square miles) and Divide Creek (200 square miles). Therefore, the flood season may vary from snowmelt flooding in May on Divide Creek to a thunderstorm flashflood in August on Porcupine Creek.

Most of the streams do not have stream gage devices to help record their flood history. The sparce information available shows 1957 to be a high snow pack year which produced high spring runoff in many Colorado river tributaries. Canyon Creek flowed 1000 cfs on June 29, West Divide Creek flowed 535 cfs on June 4, and Elk Creek flowed 1770 cfs on May 10. The spring of 1984 was also a high runoff period with Mamm Creek flowing 430 cfs on June 6, and West Divide Creek flowing 1410 cfs on May 14.

There is no published history of flooding on Porcupine Creek however, field observations indicate it is an active flooding stream from summer rainstorm. Streamflow data on Beaver Creek indicates it has never flowed more than 100 cfs, the maximum of record is 85 cfs on May 24, 1964. There does appear to be a significant difference in watershed characteristics between Porcupine and Beaver Creeks, such as type and condition of vegetation, even though they are adjacent drainages.

The following table is a selection of data from limited streamflow information available;

Stream	Streamflow Station	Maximum Discharge (cfs)	Date
Elk Creek	130	1400	May 27, 1922
	9087500	1770	June 10, 1957
	9087500	1560	May 28, 1958
West Divide Creek	132	876	May 13, 1941
	9089500	535	June 4, 1957
	9089500	1410	May 14, 1984
Canyon Creek	9085500	1000	June 29, 1957
	9085200	966	June 19, 1983
Mamm Creek	9091100	430	June 6, 1984
Beaver Creek	9092500	72	June 5, 1957
	9092500	85	May 24, 1964

Source: Water Resource Data, Colorado U.S. Geological Survey.

Interpretation and Use of Report

A. Frequency and Discharge

The 10-, 50-, 100-, and 500-year flood events are used as the flood frequencies for this flood plain analysis. Thus, the data developed in this report will be suitable not only for regulation purposes, and H.B. 1041 designation but also for Federal Insurance Administration flood insurance studies conducted by the Federal Emergency Management Agency.

These various flood events have an average occurrence of once in the number of years as indicated. For example, the 100-year flood occurs, on the average, once in a 100-year period, and has a one percent chance of being equaled or exceeded in any given year.

The particular uses for the various flood events in addition to those stated above are as follows:

10-Year and 50-Year Flood Events

Information regarding these lower frequency floods is especially useful for future engineering studies and land use planning purposes related to minor road systems, minor channel improvements, the location of parks and recreational facilities, agricultural lands, and appurtenant structures. The use of the lower frequencey floods may be considered in planning flood prevention projects to protect agricultural areas, or other property where risk to life is not a factor.

100-Year Flood Event

The 100-year flood event may be used in lieu of lower frequencies for engineering design purposes where greater security from structure failure is desired.

However, the most important use of the 100-year flood event lies in flood plain management and land use planning as set forth in the state statutes. The State of Colorado considers the 100-year frequency flood as the flood event to be used in designing and protecting structures and dwellings for human occupation. Therefore, all flood plain regulations are based upon the 100-year flood.

500-Year Flood Event

The 500-year flood event is useful in making the public aware that floods larger than the 100-year flood can and do occur. Just because a person is living above the 100-year flood boundary does not mean that he is completely safe from flooding. The 500-year flood event can also be used for regulating high risk developments within the flood plain such as nuclear power plants, or the storage or manufacture of toxic or explosive materials.

B. Flood Elevation

Flood crest elevations for the 10-, 50-, 100-, and 500-year floods, as determined at each cross section, may be found in Table 1 "Flood Frequency-Elevation and Discharge Data". Figures, 1 through 10, show a graphical representation of high water elevations at typical valley cross sections. Water surface elevations computed at each cross section were used to prepare flood profiles, sheets 1 through 37, which show the streambed elevation in relation to water surface elevations for the 10-, 50-, 100-, and 500-year frequency floods.

The flood profiles may be used in areas where controversy arises over the 100-year flood boundary shown on the Flood Plain Maps. Since the flood profile exhibits give the water surface elevation at a specific

point on the reference line, the flood elevations can be surveyed on the ground to alleviate any discrepancies on the base map.

C. Flooded Areas

Flood plain maps, sheets 1 through 29, show the boundary of the 100-year flood plain. Normally the 500-year frequency flood plain is also shown on these maps, however the steep sloping tributaries involved in this study make it impossible in most locations to differentiate between the two frequencies on the scale of maps published in this report. The flood plain boundary was plotted from the flood profiles by determining channel stationing of flood contours at the same interval as the topographic maps. Flood contours, shown as wiggly lines, extend perpendicular to the direction of flow and intersect the ground at the edge of the flood plain.

The area included within the 100-year flood line boundry is about 613 acres for the 10 tributaries.

D. Floodway

Artifical fill encroachment on flood plains can reduce the areal extent of a flood plain and provide additional space for other uses. As an alternative to the present flooding situation, a possible floodway with flood plain encroachment was analyzed in this study. The resulting effects on flood elevations are shown in an Appendix separate from this report.

Hydrology

Tributaries to the Colorado River in the vicinity of DeBeque to Glenwood Springs, Colorado are streams that flood from snowmelt as well as from summer rain. The intent of this analysis was to separate the annual peak discharges into rainfall events and snowmelt events. Separate frequency curves should be combined statistically to produce a final discharge frequency curve. There was insufficient streamflow data of rainfall flood events to accomplish this, therefore the SCS TR-20 computer program was used to simulate rainfall flood peaks. The model was used on 16 watersheds of varying sizes and a regional curve of drainage area vs. peak discharge and frequency was developed for rainfall flooding. The TR-20 analysis included the standard SCS Type II (24 hour) rainfall distribution and curve numbers for an average antecedent soil moisture condition (AMC-II). The discharge vs. drainage area data from this analysis were plotted, and a regression line fitted for several frequencies.

A regional curve was developed for snowmelt flood events using data from 8 stream gages in the area. The Log Pearson III frequency distribution (as defined in WRC Bulletin 17-B) was used with a regional skew weighted with each computed station skew. The data was plotted and discharge-drainage area lines drawn for several frequencies.

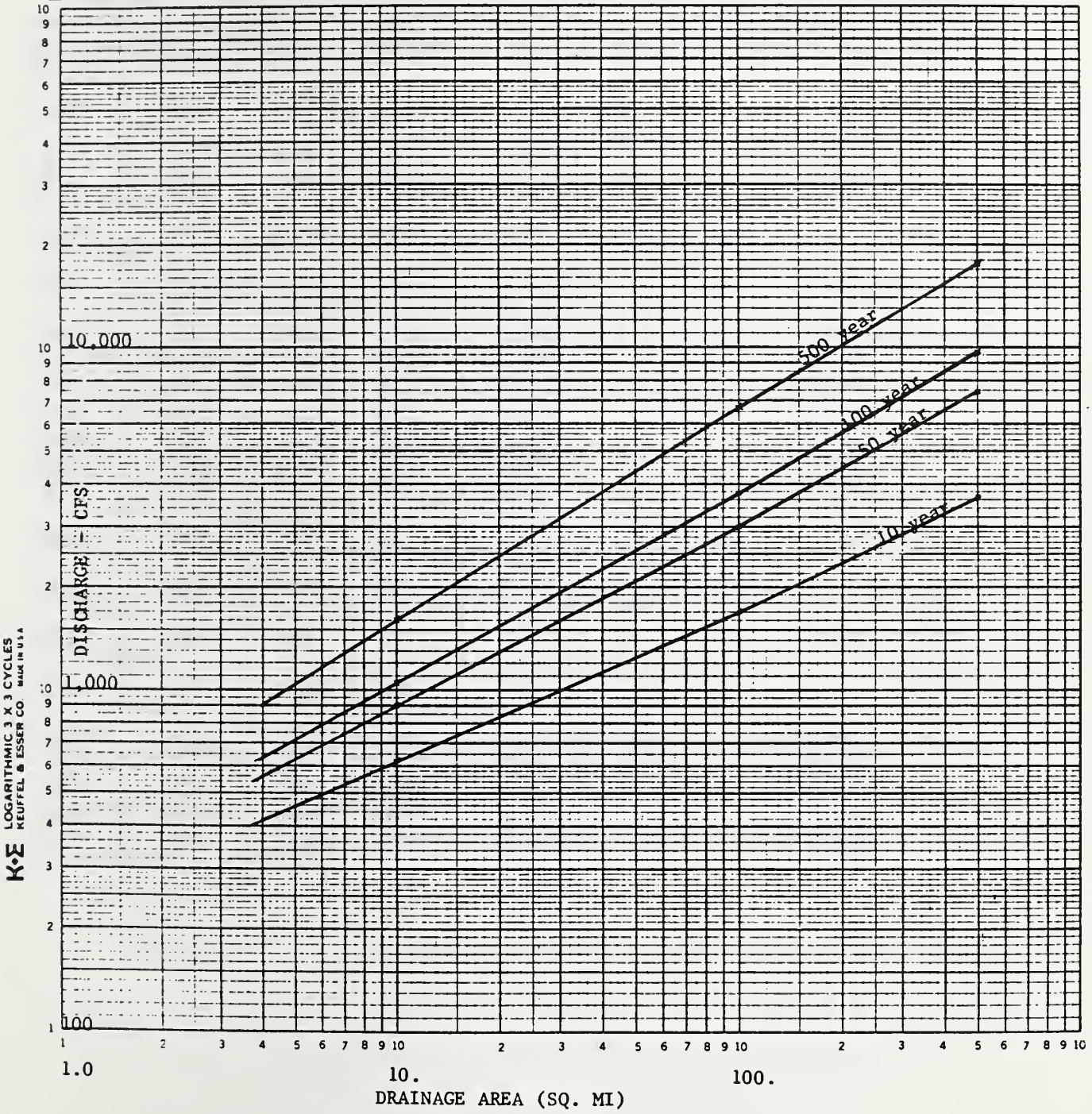
The two regional discharge frequency-drainage area curves (rainfall and snowmelt) were combined using a standard probability equation:

$$P(comb)=P(snow)+P(rain)-(P(snow)xP(rain)).$$

This combined regional curve is recommended for studies along the Colorado River Tributaries in the vicinity of Debeque to Glenwood Springs, Colorado for streams that have independent snowmelt and rainfall flood histories.

DISCHARGE-FREQUENCY-DRAINAGE AREA RELATIONSHIP FOR COLORADO RIVER TRIBUTARIES IN THE VICINITY OF DEBEQUE TO GLENWOOD SPR. COLORADO

Ref: Soil Conservation Service, Denver, Co.



The following table is a hydrology summary showing discharge frequency data at selected locations:

Location Tributary & Cross Section	Dr. Area Sq. Mi.	Discharge - cfs. 10-yr.	50-yr.	100-Yr.	500-Yr.
Porcupine	9.7	610	880	1040	1580
Beaver Sec 355	4.0-5.0	414	612	720	1134
Sec 359	13.0	690	1020	1200	1890
Mamm	62.0	1380	2310	2850	5000
Dry Hollow	11.3	650	950	1120	1740
Divide Sec 519	200.0	2350	4400	5600	10000
Sec 542	198.30	2330	4375	5575	9950
Sec 543	1.09	240	290	310	390
Sec 551	197.21	2310	4350	5550	9900
Sec 557	195.49	2290	4325	5525	9850
Sec 558	190.35	2280	4300	5500	9800
Sec 562	5.14	465	640	730	1070
Garfield	43.6	1180	1920	2380	4000
Alkali	14.4	720	1090	1290	2000
South Canyon	10.6	630	930	1080	1670
Canyon	55.3	1300	2200	2700	4600
Elk Sec 633	177.1	2200	4200	5200	9300
Sec 646	0.26	60	70	78	101
Sec 652	169.9	2180	4000	5100	9100
Sec 653	130.0	1900	3450	4380	7700
Sec 671	39.9	1120	1840	2250	3780

Hydraulics

The U.S. Army Engineers HEC-2 computer program was used to perform water surface profile computations. Numerous bridges and culverts exist along the channels through the study reach. Dimensions for these road crossings were determined from field investigations and the data was integrated into appropriate cross section data.

Cross section data, and reach length information were obtained from photogrammetric maps. Maps were prepared especially for this study, at a scale of 1 inch = 200 ft. with 2.0 ft contour intervals.

Hydraulic roughness coefficients (Mannings N-Values) were determined from field investigations and documented with photographs (in technical addendum). A tabulation of roughness coefficients is included in the technical addendum.

Water surface profiles, typical cross sections and maps showing the 100-year flood boundaries are shown on included exhibits and flood plain maps. Table 1 shows computed flood elevations at specific cross sections.

Flood lines were located on the maps by transferring flood elevations (at map contour intervals) from plotted profiles (from HEC-2) to the maps, using stationing along the main channel as the location reference. These points were connected and smoothed to create the map flood lines.

FLOOD PLAIN MANAGEMENT

Potential flood damages to existing development and possible loss of life can be alleviated or lessened through non-structural and structural flood hazard mitigation methods.

Non-structural methods include: local flood plain regulations, land treatment, flood warning and forecasting systems, flood insurance, flood proofing, flood fighting and emergency evacuations.

Local Regulations

The need to minimize property damage due to flooding has been recognized by planners and local community officials. Subdividers and developers are required to submit proposed storm drainage plans to the planning commission for approval. In the past, drainage plans have been prepared singularly or on a plat-by-plat basis. Information contained in this report will be useful in developing a master drainage plan for the study area. This report provides the outline of flood hazard areas on large scale maps specifically for this purpose.

The city may provide zoning regulations...

> ..."to establish, regulate, restrict, and limit such uses on or along any storm or floodwater runoff channel or basin, as such storm or floodwater runoff channel or basin has been designated and approved by the Colorado Water Conservation Board, in order to lessen or avoid the hazards to persons and damage to property resulting from the accumulation of storm or floodwaters"...

as stated in Section 30-28-111 for county governments and Sections 31-23-301 for municipal governments of the Colorado Revised Statutes.

Colorado Natural Hazard Area Regulations

In 1974, the Colorado General Assembly passed House Bill 1041, a bill "concerning land use, and providing for identification, designation, and administration of areas and activities of State interest,..." (H.B. 1041, Title 24, Article 65.1, CRS, as amended). Areas of State interest include natural hazard areas, or those areas that are "so adverse to past, current, or foreseeable construction or land use as to constitute a significant hazard to public health and safety or to property." Flood plains are natural hazard areas.

With reference to the administration of natural hazard areas, section 24-65.1-202(2)(a) of the Act provides: Flood plains shall be administered so as to minimize significant hazard to public health and safety or to property; open space activities shall be encouraged; structures shall be designed in terms of use and hazards; disposal sites and systems shall be protected from inundation by floodwaters; and activities shall be discouraged which, in time of flooding, would create significant hazards to public health and safety or to property.

The Act further provides that after promulgation of guidelines for land use in natural hazard areas..., the natural hazard areas shall be administered by local government in a manner which is consistent with the guidelines for land use in each of the natural hazard areas.

Colorado Water Conservation Board Designation

Concerning the designation of the flood plain, the Colorado Water Conservation Board is charged with the primary responsibility for:

1. Making recommendations to local governments and the Colorado Land Use Commission.
2. Providing technical assistance to local governments.

The Board's power and duty is ...

> ..."to devise and formulate methods, means and plans for bringing about the greater utilization of the waters of the state and prevention of flood damages therefrom, and to designate and approve storm or floodwater runoff channels or basins, and to make such designations available to legislative bodies of cities and incorporated towns, to county planning commissions, and to boards of adjustment of cities, incorporated towns, and counties of this state"...

as stated in Section 37-60-106 (1) (c) of the Colorado Revised Statutes

Upon review and approval of this report, the Colorado Water Conservation Board will designate and approve as flood plain areas those areas inundated by the 100-year flood as described by the floodwater surface elevations and profiles in this report. The use of the designated flood plain areas may then be regulated by the local government.

Model Regulations

Model flood plain regulations have been promulgated by the Colorado Water Conservation Board, with the purpose to promote public health, safety, and general welfare, and minimize flood hazards and losses. The model includes provisions designed to:

1. Promote sound planning and land use, and permit only such uses within flood plains that will not endanger life, health, and public safety or property in times of flooding.
2. Protect the public from avoidable financial expenditures for flood control projects, flood relief measures, and the repair and restoration of damaged public facilities.
3. Prevent avoidable interruption of business and commerce;
4. Minimize victimization of unwary home and land purchasers; and

5. Facilitate the administration of flood hazard areas by establishing requirements that must be met before use or development is permitted.

The Board's model flood plain regulations offer two options for management of the 100-year flood plain. These are the Hazard Area Concept and the Floodway Concept.

The Hazard Area concept defines the areas of the flood plain in which waters of the 100-year flood attain a maximum depth greater than one and one-half feet as a high hazard areas, and a depth less than this as a low hazard area. The Board recommends that no basements should be allowed for structures located within the low hazard area and all habitable living quarters (first floors) should be constructed a minimum of one foot above the 100-year floodwater surface elevations. Development is prohibited in high hazard areas.

The Floodway concept, used in this study, defines the channel of a stream and adjacent flood plain areas that must be kept free of development in order to safely pass the 100-year flood with a minimal rise in the water surface elevation. The rise must be no more than one foot to meet federal standards.

The U.S. Army Engineers HEC-2 computer program was used to make the floodway analysis. Floodway information is included in a separate appendix. Data are in tabular form and include floodway widths, cross sectional flow area, and average velocities. Computations are for an increase in rise of water surface elevations of 1.0 feet above the 100-year flood.

Flood Insurance

The National Flood Insurance Act of 1968 (Title XIII of the Housing and Urban development Act, P.L. 90-448) recognized the necessity for flood plain management. This Act makes federally subsidized insurance available to citizens in communities that adopt regulations controlling future developments of their flood plain. In respect to encroachment on the flood plain, the regulations require:

(1) New residential construction or substantial improvement of existing homes must have the lowest floor level above the elevation of the 100-year flood.

(2) Non-residential construction must meet the same standard or be flood proofed to that level.

The 1968 Act benefits owners of structures already in the flood-prone areas by providing insurance coverage that had been unavailable through private companies. The Act created a cooperative program of insurance against flood damage by the private flood insurance industry and the federal government.

The amount of coverage available and the premium rate varies considerably depending on property location within the flood plain and the property value. All property owners shown in this study to be within areas subject to flooding should consider the purchase of flood insurance.

Additional information on the flood Insurance Program is available from local insurance agents or brokers and the:

Federal Emergency Management Agency, Region VIII
Natural and Technological Hazard Division
Building 710
Denver Federal Center
Denver, Colorado 80225

Telephone 235-4830

The National Flood Insurance Program uses the floodway concept in it's rate studies for communities participating in the regular phase of the programs.

Flood Warning and Flood Forecasting Systems

The National Oceanic and Atmospheric Administration (NOAA) through its' National Weather Service (NWS), maintains year-around surveillance of weather and flood conditions. Daily weather forecasts are issued through the NWS and disseminated by radio and television stations. A general alert to the danger of flash flooding is one of the services provided by the National Weather Service.

Evacuation Plan

An "Emergency Evacuation and Operations Plan" would provide for alerting the public of potential flooding, and coordinating community and county services during an emergency. Plan implementation during the time of an emergency requires cooperation of the general public as well as local officials. This is especially important for flood fighting, evacuation, and rescue operations. Communication is extremely important during flood alerts. Warnings issued through the National Weather Service are disseminated by radio to state and local officials.

Structural Flood Control Measures

Under present conditions, bridges and culverts along lower reaches of most of the tributaries restrict flow and contribute to out-of-channel flooding. If these bridges could be enlarged to accommodate the 100-year discharge without causing excessive backwater effects, the flood elevations and areas innundated would be reduced. This may not be economically practical except in select high flood damage locations.

Other structural measures such as floodwater retarding dams were not evaluated.

RECOMMENDATIONS

The following recommendations are included for consideration in reducing potential flood damages.

1. Local units of government should implement a flood plain management or flood hazard mitigation plan.
2. Existing restrictions that contribute to overbank flooding should be corrected where possible and when possible.
3. Detailed studies of specific structural alternative measures such as floodways, dikes, or floodwater retarding structures should be considered.
4. Owners and occupants of buildings and other property within or adjacent to the delineated flood boundary should consider flood insurance.
5. Public information and education programs on flood hazards should be made available to the public.
6. Native habitat along the main channels should be maintained to preserve channel stability and provide wildlife habitat.

Channel - A natural or artificial water course of perceptible extent with definite banks to confine and conduct continuously or periodically flowing water. Channel flow is that water which is flowing within the limits of the defined channel.

Flood - Water from a river, stream, water course, lake or other body of standing water, that temporarily overflows the boundaries within which it is ordinarily confined.

Flood Crest - The maximum stage or elevtion reached by the waters of a flood at a given location.

Flood Frequency - A means of expressing the probability of flood occurrences as determined from statistical analysis of representative streamflow or rainfall and runoff records. The frequency of a particular stage or discharge is usually expressed as occurring once in a specified number of years. The 10-, 50-, 100- and 500-year frequency floods have an average frequency of occurrence in the order of once in the number of years as indicated.

10-Year Flood - A flood having an average frequency of occurrence of once in 10 years. It has a 10 percent chance of being equaled or exceeded in any given year.

100-Year Flood - A flood having an average frequency of occurrence of once in 100 years. It has a 1 percent chance of being equaled or exceeded in any given year.

Flood Hazard Areas - Areas susceptible to flood damage.

Flood Peak - The highest stage or discharge attained during a flood event; also referred to as peak stage or peak discharge.

Flood Plain - The relatively flat or lowland area adjoining a river, stream, watercourse, lake, or other body of standing water which has been or may be covered temporarily by flood water. For administrative purposes the flood plain may be defined as the area that would be inundated by the 100-year flood.

Left Stream Bank - The left bank of the stream when looking downstream.

Perched Channel Flow - A condition where the flow elevation in the outer portions of the flood plain is higher than the flow elevation in the main channel. This condition occurs when a higher secondary channel receives inflow from some location upstream and maintains a flatter slope than the main channel.

Reach - A hydraulic engineering term used to describe longitudinal segments of a stream or river.

Right Stream Bank - The right bank of the stream when looking downstream.

Runoff - That part of precipitation, as well as any other flow contributions, which appears in surface streams of either perennial or intermittent form.

Stream - Any natural channel or depression through which water flows whether continuously, intermittently, or periodically, including modification of the natural channel or depression.

Structure - Anything constructed or erected, the use of which requires a more or less permanent location on or in the ground. Includes but is not limited to bridges, buildings, canals, dams, ditches, diversions, irrigation systems, pumps, pipelines, railroads, roads sewage disposal systems, underground conduits, water supply systems and wells.

Typical Valley Cross Section - An engineering drawing of a vertical section of a stream channel and adjoining landscape as viewed in a

downstream direction. The drawing represents a specified location within a designated stream reach.

Water Surface Profile - (This term is synonymous with Flood Profile) - a graph showing the relationship of the water surface elevation of a flood event to location along a stream or river.

Watersheds - A drainage basin or area which collects runoff and transmits it usually by means of streams and tributaries to the outlet of the basin.

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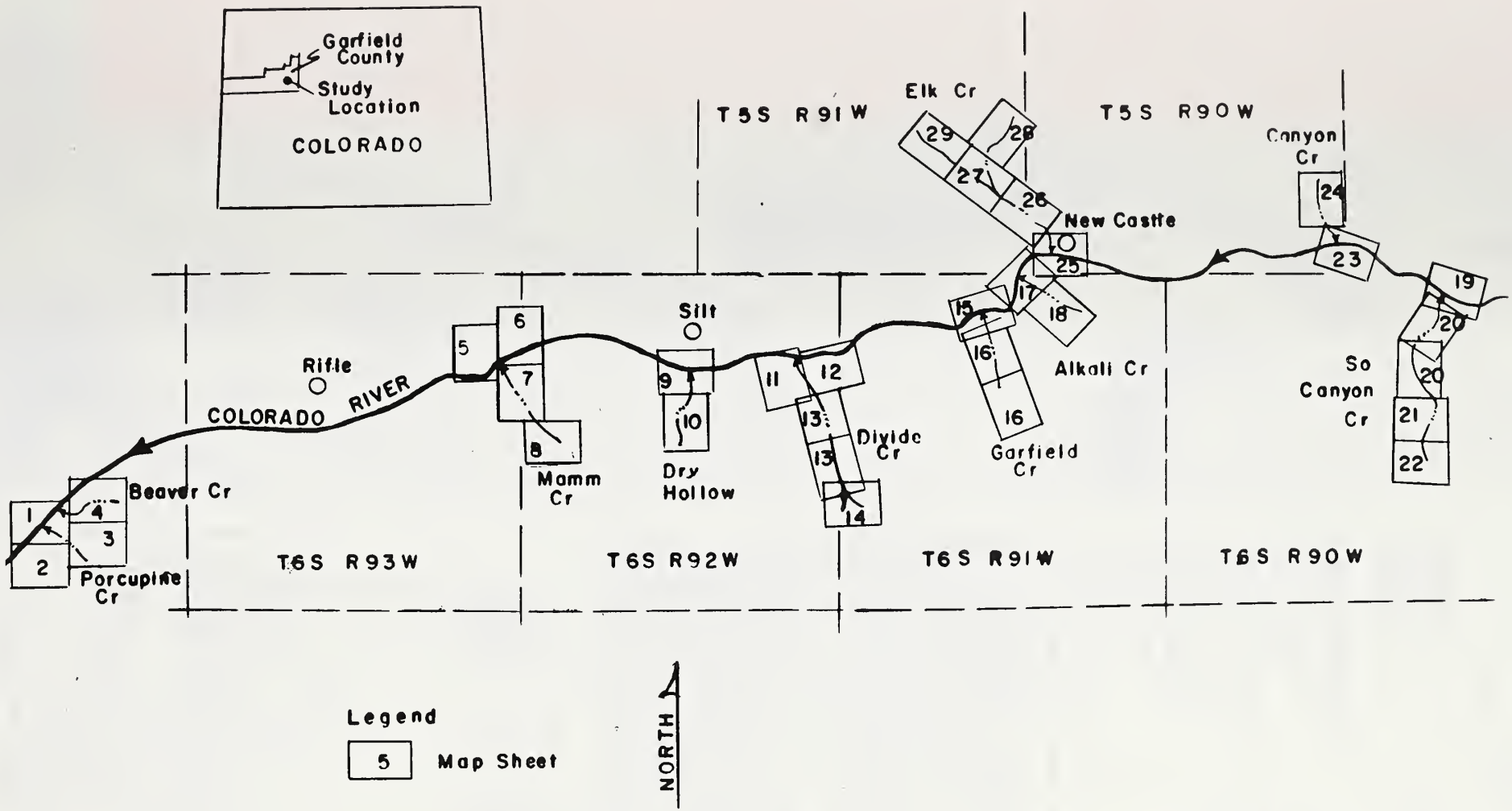
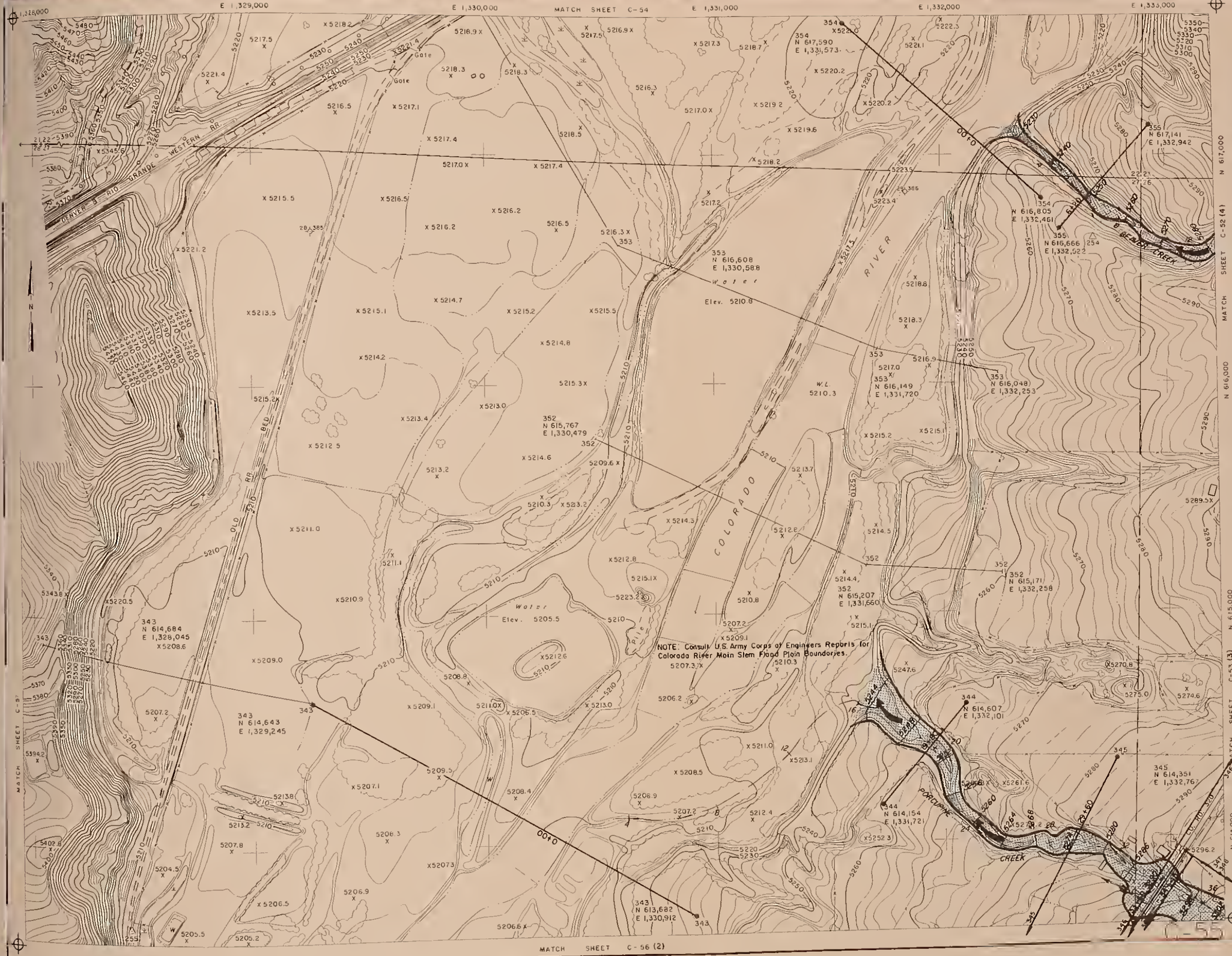


FLOOD PLAIN INDEX MAP
Colorado River Tributaries
Flood Plain Management Study



LEGEND
FLOOD PLAIN LIMITS

100 YEAR FLOOD

GROUND ELEVATION IN FEET MEAN SEA LEVEL DATUM — 5280

CONTOUR INTERVAL 2.0'

CROSS SECTION — A — A

CROSS SECTION CONTINUED

INTERMITTENT STREAM

HORIZONTAL CONTROL — △272

VERTICAL CONTROL — ⊙

PHOTO CENTER — ⊙

GRID POINT — +

100 YEAR FLOOD ELEV. — 5280

Station in 1000 ft from lower study limit

C-69 INDEX NUMBER FOR COLORADO RIVER MAPPING PROJECT

SHEETS 1-20 AND 23-29

TOPOGRAPHY COMPILED BY PHOTOGRAMMETRIC METHODS FROM 6" C.F.L. VERTICAL AERIAL PHOTOGRAPHY TAKEN NOV. 15,16 & 17, 1982. BASIS OF HORIZONTAL CONTROL: THE COLORADO STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, LAMBERT CONFORMAL CONIC PROJECTION. THE FOLLOWING (USC & GS AND /OR USGS) TRIANGULATION STATIONS WERE USED: CATHERINE COORDINATES X=1,516,508.42 Y=581,255.78. GNAT-X=1,231,566.60 Y=523,643.10. BASIS OF VERTICAL CONTROL: USC & GS SEA LEVEL DATUM BASED ON THE FOLLOWING BENCHMARKS: O-156 ELEVATION 6192.284. 4870.74PS-ELEVATION 4869.860. PREPARED BY ANALYTICAL SURVEYS, INC. 4167 SINTON ROAD, COLORADO SPRINGS, CO. 80907.

SHEETS 21 & 22

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ORY HOLLOW CR.	9 - 10	CANYON CR.	23-24
OIVIDE CR.	11 -14	ELK CR.	25-29

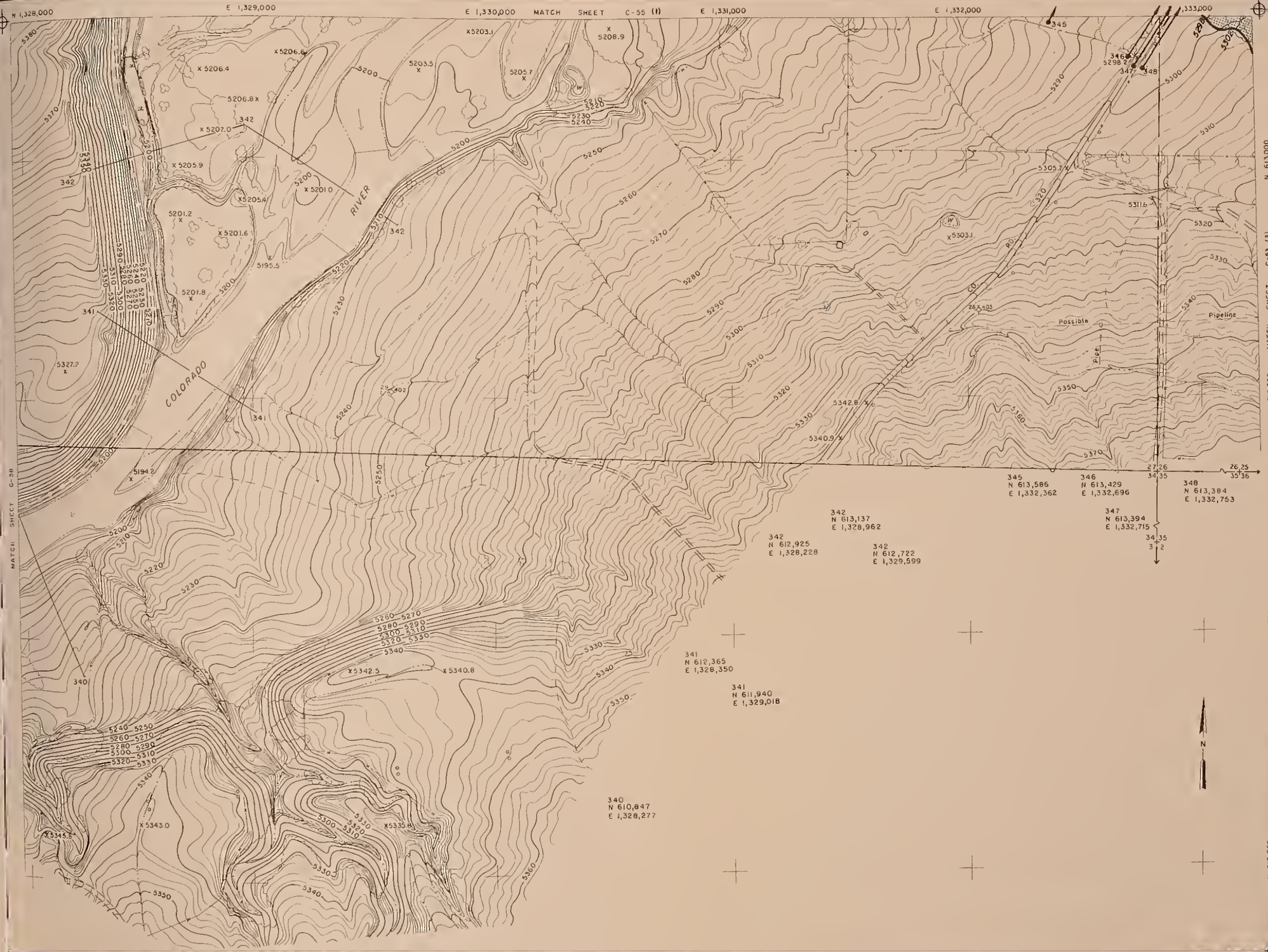
REVISION	DATE	BY

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FLOOD PLAINS
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

SCALE 200 0 200 400 600 IN FEET

SHEET 1 OF 29



LEGEND
FLOOD PLAIN LIMITS

100 YEAR FLOOD

GROUND ELEVATION IN FEET MEAN SEA LEVEL DATUM — 5280

CONTOUR INTERVAL 2.0'

CROSS SECTION A — A

CROSS SECTION CONTINUED

INTERMITTENT STREAM

HORIZONTAL CONTROL △272 — Station in 1001's from lower study limit

VERTICAL CONTROL

PHOTO CENTER

GRID POINT

100 YEAR FLOOD ELEV. 5280

C-69 INDEX NUMBER FOR COLORADO RIVER MAPPING PROJECT

SHEETS 1-20 AND 23-29

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OIVIDE CR.	11 -14	ELK CR.	25-29

REVISION	DATE	BY

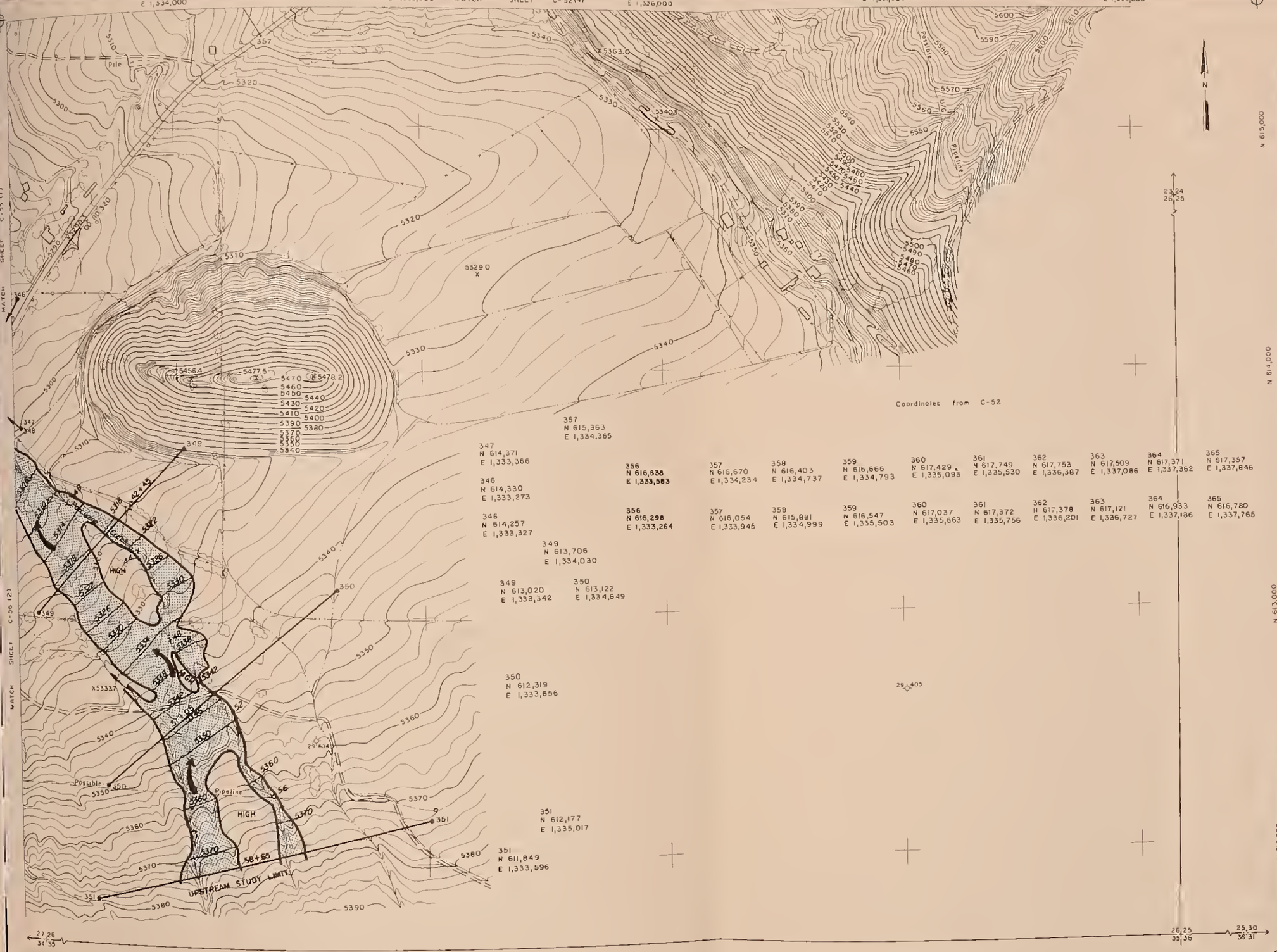
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FLOOD PLAINS
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

SCALE 200 0 200 400 600 IN FEET

C-56

SHEET 2 OF 29



LEGEND
FLOOD PLAIN LIMITS

100 YEAR FLOOD

GROUND ELEVATION IN FEET MEAN SEA LEVEL DATUM — 5280

CONTOUR INTERVAL 2.0'

CROSS SECTION A — A

CROSS SECTION CONTINUED

INTERMITTENT STREAM

HORIZONTAL CONTROL △272

VERTICAL CONTROL ○

PHOTO CENTER ⊙

GRID POINT +

100 YEAR FLOOD ELEV. 5280

Station in 100ft from lower study limit

C-69 INDEX NUMBER FOR COLORADO RIVER MAPPING PROJECT

SHEETS 1-20 AND 23-29

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DIVIDE CR.	11 -14	ELK CR.	25-29

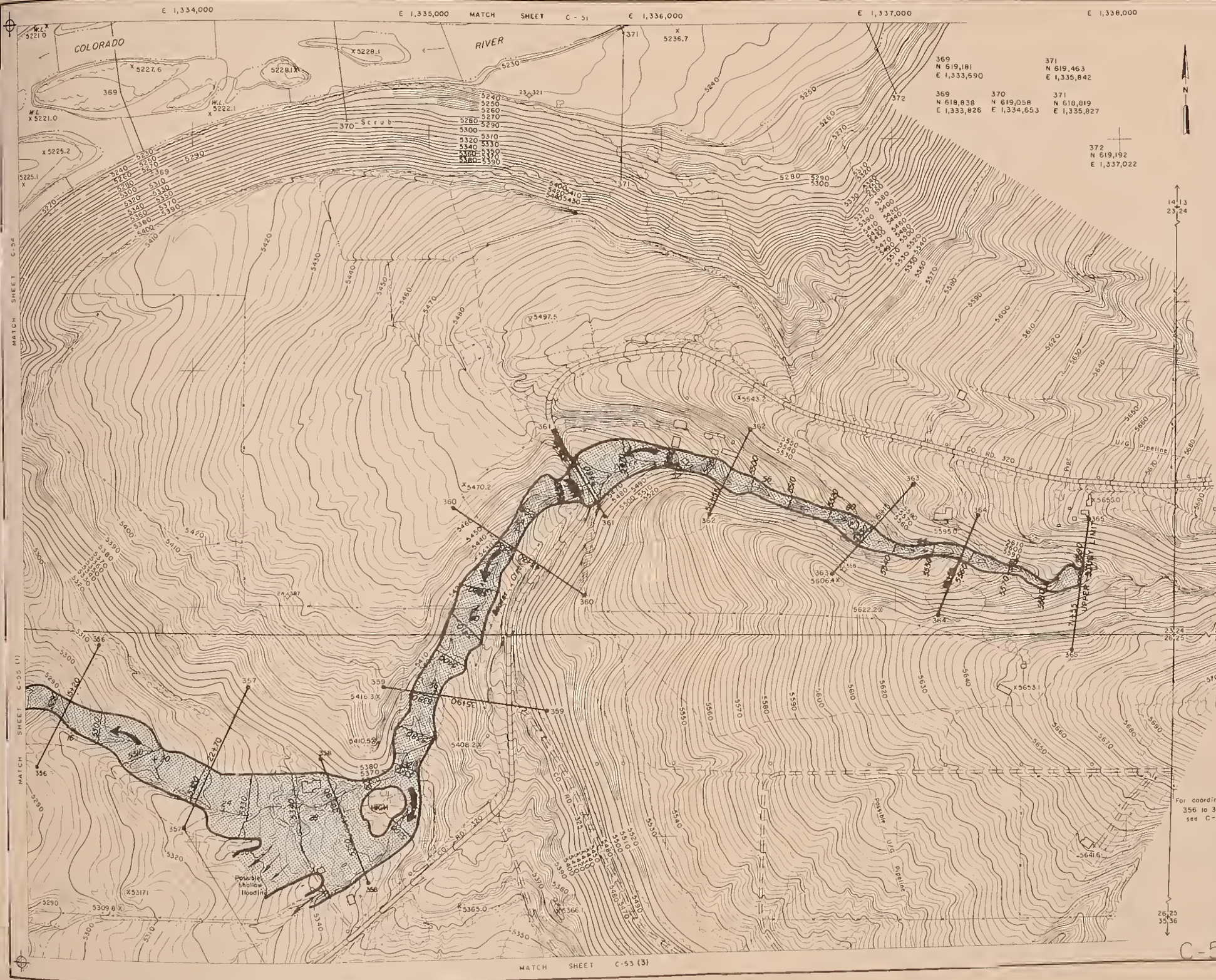
REVISION	DATE	BY

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FLOOD PLAINS
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

200 0 200 400 600
SCALE IN FEET

SHEET 3 OF 29



LEGEND
FLOOD PLAIN LIMITS

100 YEAR FLOOD

GROUND ELEVATION IN FEET MEAN SEA LEVEL DATUM — 5280

CONTOUR INTERVAL 2.0'

CROSS SECTION A — A

CROSS SECTION CONTINUED

INTERMITTENT STREAM

HORIZONTAL CONTROL △272

VERTICAL CONTROL ⊙

PHOTO CENTER ⊙

GRID POINT +

100 YEAR FLOOD ELEV. 5280

Station in 1000 ft from lower study limit

C-69 INDEX NUMBER FOR COLORADO RIVER MAPPING PROJECT

SHEETS 1-20 AND 23-29

TOPOGRAPHY COMPILED BY PHOTOGRAMMETRIC METHODS FROM 6" C.F.L. VERTICAL AERIAL PHOTOGRAPHY TAKEN NOV. 15, 16 & 17, 1982. BASIS OF HORIZONTAL CONTROL: THE COLORADO STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, LAMBERT CONFORMAL CONIC PROJECTION. THE FOLLOWING (USC & GS AND /OR USGS) TRIANGULATION STATIONS WERE USED: CATHERINE COORDINATES X= 1,516,508.42 Y= 581,255.78. GNAT- X=1,231,566.60 Y= 523,643.10. BASIS OF VERTICAL CONTROL: USC & GS SEA LEVEL DATUM BASED ON THE FOLLOWING BENCHMARKS: O-156 ELEVATION 6192.284. 4870.74PS· ELEVATION 4869.860. PREPARED BY ANALYTICAL SURVEYS, INC. 4167 SINTON ROAD, COLORADO SPRINGS, CO. 80907.

SHEETS 21 & 22

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DIVIDE CR.	11 -14	ELK CR.	25-29

REVISION	DATE	BY

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FLOOD PLAINS
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

SCALE 200 0 200 400 600 IN FEET

C-52

SHEET 4 OF 29

N 632,000 | N 631,000 | N 630,000 | MATCH SHEET C-35 (6) | N 629,000 | N 628,000 | MATCH SHEET C-36 (7)

E 1,375,000 | E 1,374,000 | E 1,373,000 | E 1,372,000

MATCH SHEET C-38

MATCH SHEET

446
N 627,790
E 1,375,010

447
N 627,126
E 1,375,090

445
N 628,593
E 1,374,627

445
N 630,846
E 1,374,407

444
N 630,575
E 1,372,543

444
N 628,536
E 1,372,708

444
N 628,306
E 1,372,939

444
N 627,331
E 1,372,981

443
N 627,639
E 1,371,866

443
N 630,448
E 1,371,603

443
N 627,132
E 1,371,633

NOTE: Consult U.S. Army Corps of Engineers Reports for Colorado River Main Stem Flood Plain Boundaries.

LEGEND
FLOOD PLAIN LIMITS

100 YEAR FLOOD

GROUND ELEVATION IN FEET MEAN SEA LEVEL DATUM — 5280

CONTOUR INTERVAL 2.0'

CROSS SECTION A — A

CROSS SECTION CONTINUED

INTERMITTENT STREAM

HORIZONTAL CONTROL △272

VERTICAL CONTROL ⊙

PHOTO CENTER

GRID POINT

100 YEAR FLOOD ELEV. 5280

Station in 100 ft from lower study limit

C-69 INDEX NUMBER FOR COLORADO RIVER MAPPING PROJECT

SHEETS 1-20 AND 23-29

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FLOOD PLAINS
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

SCALE 200 0 200 400 600 IN FEET

SHEET 5 OF 29

C-37

N 632,000 | N 631,000 MATCH SHEET C-33 | N 630,000 | N 629,000 MATCH SHEET C-34 | N 628,000

E 1,379,000 | E 1,378,000 | E 1,377,000 | E 1,376,000

MATCH SHEET C-36 (7)

MATCH SHEET C-37 (5)

LEGEND
FLOOD PLAIN LIMITS

100 YEAR FLOOD

GROUND ELEVATION IN FEET MEAN SEA LEVEL DATUM — 5280

CONTOUR INTERVAL 2.0'

CROSS SECTION

CROSS SECTION CONTINUED

INTERMITTENT STREAM

HORIZONTAL CONTROL △272

VERTICAL CONTROL ⊙

PHOTO CENTER

GRID POINT

100 YEAR FLOOD ELEV. — 5280

Station in 100ft from lower study limit

C-69 INDEX NUMBER FOR COLORADO RIVER MAPPING PROJECT

SHEETS 1-20 AND 23-29

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REVISION	DATE	BY

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SOIL CONSERVATION SERVICE

FLOOD PLAINS
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

SCALE 200 0 200 400 600 FEET

SHEET 6 OF 29

C-35

N 627,000 MATCH SHEET C-34 N 626,000 N 625,000 N 624,000 N 623,000

E 1,379,000 E 1,378,000 E 1,377,000 E 1,376,000

MATCH SHEET C-35 (6)

MATCH SHEET C-36-1 (8)

MATCH SHEET C-37 (5)

MATCH SHEET C-38

LEGEND
FLOOD PLAIN LIMITS

100 YEAR FLOOD

GROUND ELEVATION IN FEET MEAN SEA LEVEL DATUM 5280

CONTOUR INTERVAL 2.0'

CROSS SECTION A A

CROSS SECTION CONTINUED

INTERMITTENT STREAM

HORIZONTAL CONTROL △272

VERTICAL CONTROL ○

PHOTO CENTER ◇

GRID POINT +

100 YEAR FLOOD ELEV. 5280

Station in 1001's from lower study limit

C-69 INDEX NUMBER FOR COLORADO RIVER MAPPING PROJECT

SHEETS 1-20 AND 23-29

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SHEETS 21 & 22

COORDINATE SYSTEM IS THE MODIFIED COLORADO STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, LAMBERT CONFORMAL CONIC PROJECTION. THE FOLLOWING (USC&GS AND USGS) TRIANGULATION STATIONS WERE USED: ORY HOLLOW X=1,395,770.68, Y=613,033.61, CASTLE X=1,432,094.81, Y=623,300.73, ANTLER X=1,371,760.95, Y=630,478.31. BASIS OF VERTICAL CONTROL: USC&GS AND USGS. SEA LEVEL DATUM BASED ON THE FOLLOWING BENCHMARKS: RIFLE ELEV. 5319.199, NEW CASTLE ELEV. 5747.82. TOPOGRAPHY COMPILED BY PHOTOGRAMMETRIC METHODS FROM 6" CFL VERTICAL AERIAL PHOTOGRAPHY TAKEN JAN. 12, 1983. COMPILED BY BELL MAPPING CO., 500 KALAMATH ST. DENVER CO.

SHEET INDEX

STREAM	MAP SHEET	STREAM	MAP SHEET
PORCUPINE CR.	1 - 3	GARFIELD CR.	15-16
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MAMM CR.	5 - 8	S. CANYON CR.	19-22
ORY HOLLOW CR.	9 - 10	CANYON CR	23-24
DIVIDE CR.	11 -14	ELK CR.	25-29

REVISION	DATE	BY

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FLOOD PLAINS
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

SCALE 200 0 200 400 600 IN FEET

SHEET 7 OF 29

C-36

LEGEND

FLOOD PLAIN LIMITS

100 YEAR FLOOD

GROUND ELEVATION IN FEET MEAN SEA LEVEL DATUM — 5280

CONTOUR INTERVAL 2.0'

CROSS SECTION

CROSS SECTION CONTINUED

INTERMITTENT STREAM

HORIZONTAL CONTROL — △272

VERTICAL CONTROL

Station in 100ft from lower study limit

PHOTO CENTER

GRID POINT

100 YEAR FLOOD ELEV. — 5280

C-69 INDEX NUMBER FOR COLORADO RIVER MAPPING PROJECT

SHEETS 1-20 AND 23-29

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REVISION	DATE	BY

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FLOOD PLAINS
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES IN GARFIELD COUNTY COLORADO

SCALE IN FEET: 200 0 200 400 600

C-36-1

SHEET 6 OF 29

E 1,390,000 E 1,391,000 MATCH SHEET C-28 E 1,392,000 E 1,393,000 E 1,394,000

N 630,000 N 629,000 N 628,000 N 627,000

MATCH SHEET C-31 MATCH SHEET C-32 MATCH SHEET C-26 MATCH SHEET C-29

MATCH SHEET C-29-1 (10)

WATER Elev. 5407.3

COLORADO RIVER

DITCH

LAST CHANCE DITCH

SUN RISING DITCH

Dry Hollow Ck

Piles

CO. RD. 346

CO. RD. 331

NOTE: Consult U.S. Army Corps of Engineers Reports for Colorado River Main Stem Flood Plain Boundaries.

LEGEND
FLOOD PLAIN LIMITS

100 YEAR FLOOD

GROUND ELEVATION IN FEET MEAN SEA LEVEL DATUM — 5280

CONTOUR INTERVAL 2.0'

CROSS SECTION A — A

CROSS SECTION CONTINUED

INTERMITTENT STREAM

HORIZONTAL CONTROL △272 — Station in 100ft from lower study limit

VERTICAL CONTROL ○

PHOTO CENTER

GRID POINT +

100 YEAR FLOOD ELEV. — 5280

C-69 INDEX NUMBER FOR COLORADO RIVER MAPPING PROJECT

SHEETS 1-20 AND 23-29

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DIVIDE CR.	11 -14	ELK CR.	25-29

REVISION	DATE	BY

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FLOOD PLAINS
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

SCALE 200 0 200 400 600 IN FEET

C-29

SHEET 9 OF 29

N 626,000 N 625,000 N 624,000 N 623,000 N 622,000 N 621,000

E 1,393,000 E 1,392,000 E 1,391,000 E 1,390,000

SHEET C-29 (9) MATCH

LEGEND
FLOOD PLAIN LIMITS

100 YEAR FLOOD

GROUND ELEVATION IN FEET MEAN SEA LEVEL DATUM — 5280

CONTOUR INTERVAL 2.0'

CROSS SECTION A — A

CROSS SECTION CONTINUED

INTERMITTENT STREAM

HORIZONTAL CONTROL △272

VERTICAL CONTROL ⊙

PHOTO CENTER

GRID POINT +

100 YEAR FLOOD ELEV. 5280

Station in 100 ft. from lower study limit

C-69 INDEX NUMBER FOR COLORADO RIVER MAPPING PROJECT

SHEETS 1-20 AND 23-29

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SHEETS 21 & 22

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REVISION	DATE	BY

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FLOOD PLAINS
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

SCALE 200 0 200 400 600 IN FEET

C-29-1

SHEET 10 OF 29

LEGEND
FLOOD PLAIN LIMITS

100 YEAR FLOOD

GROUND ELEVATION IN FEET MEAN SEA LEVEL DATUM — 5280

CONTOUR INTERVAL 2.0'

CROSS SECTION A — A

CROSS SECTION CONTINUED

INTERMITTENT STREAM

HORIZONTAL CONTROL △272

VERTICAL CONTROL ⊙

PHOTO CENTER

GRID POINT

100 YEAR FLOOD ELEV. 5280

Station in 1001' from lower study limit

C-69 INDEX NUMBER FOR COLORADO RIVER MAPPING PROJECT

SHEETS 1-20 AND 23-29

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DIVIDE CR.	11 -14	ELK CR.	25-29

NOTE: Consult U.S. Army Corps of Engineers Reports for Colorado River Main Stem Flood Plain Boundaries.

REVISION	DATE	BY

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FLOOD PLAINS
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

SCALE 200 0 200 400 600 IN FEET

SHEET 11 OF 29

C-24

LEGEND
FLOOD PLAIN LIMITS

100 YEAR FLOOD

GROUND ELEVATION IN FEET MEAN SEA LEVEL DATUM — 5280

CONTOUR INTERVAL 2.0'

CROSS SECTION A — A

CROSS SECTION CONTINUED

INTERMITTENT STREAM

HORIZONTAL CONTROL △272

VERTICAL CONTROL ⊙

PHOTO CENTER

GRID POINT +

100 YEAR FLOOD ELEV. 5280

Station in 1000 ft from lower study limit

C-69 INDEX NUMBER FOR COLORADO RIVER MAPPING PROJECT

SHEETS 1-20 AND 23-29

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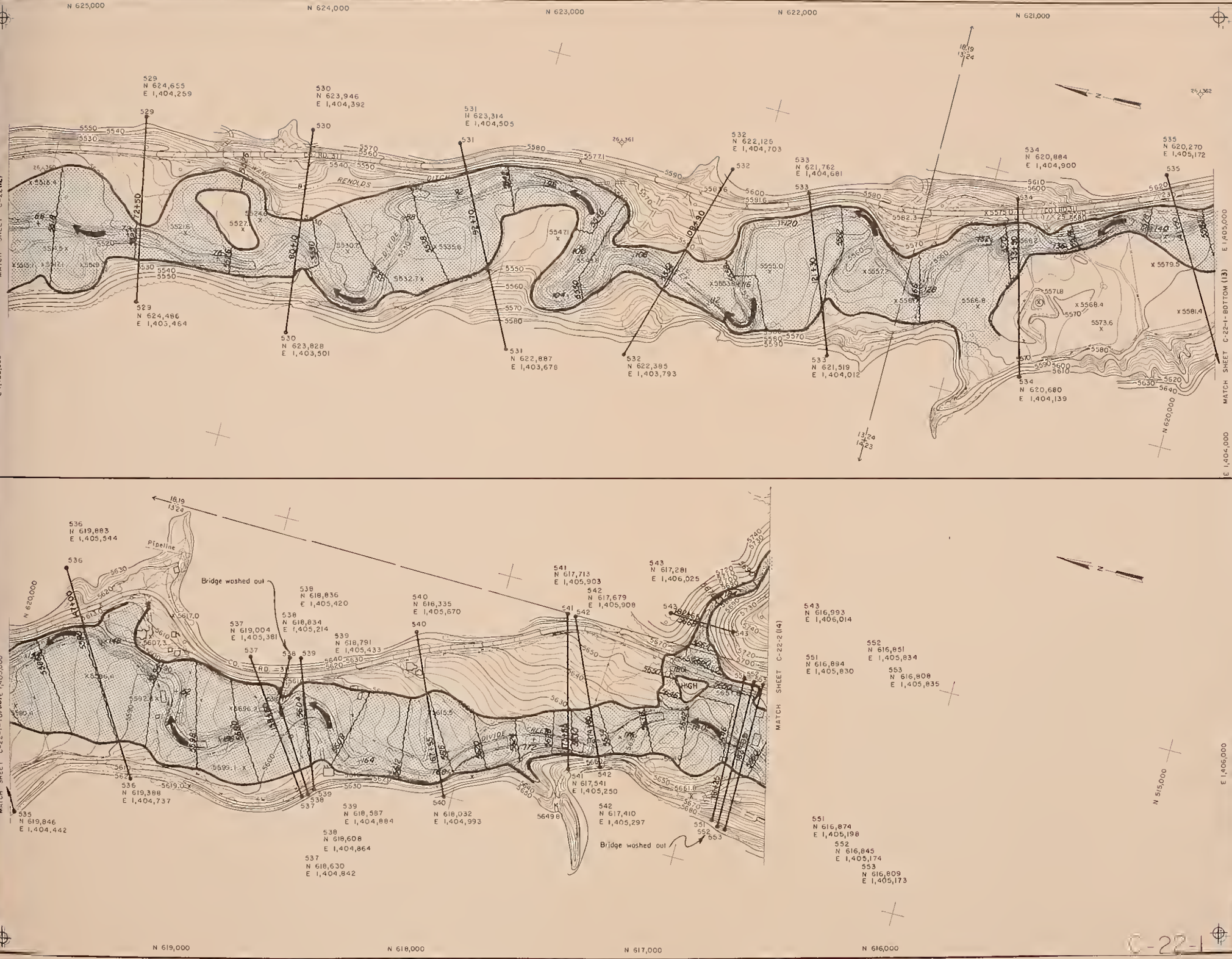
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FLOOD PLAINS
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

SCALE 200 0 200 400 600 IN FEET

SHEET 12 OF 29



LEGEND
FLOOD PLAIN LIMITS

100 YEAR FLOOD

GROUND ELEVATION IN FEET MEAN SEA LEVEL DATUM — 5280

CONTOUR INTERVAL 2.0'

CROSS SECTION A — A

CROSS SECTION CONTINUED

INTERMITTENT STREAM

HORIZONTAL CONTROL △272 — Station in 1000ft. from lower study limit

VERTICAL CONTROL

PHOTO CENTER

GRID POINT

100 YEAR FLOOD ELEV. 5280

C-69 INDEX NUMBER FOR COLORADO RIVER MAPPING PROJECT

SHEETS 1-20 AND 23-29

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REVISION	DATE	BY

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FLOOD PLAINS
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

SCALE 200 0 200 400 600 IN FEET

C-22-1

SHEET 13 OF 29

LEGEND
FLOOD PLAIN LIMITS

100 YEAR FLOOD

GROUND ELEVATION IN FEET MEAN SEA LEVEL DATUM — 3280

CONTOUR INTERVAL 2.0'

CROSS SECTION A — A

CROSS SECTION CONTINUED

INTERMITTENT STREAM

HORIZONTAL CONTROL △272

VERTICAL CONTROL ⊙

PHOTO CENTER

GRID POINT +

100 YEAR FLOOD ELEV. 5280

Station in 100 ft from lower study limit

C-69 INDEX NUMBER FOR COLORADO RIVER MAPPING PROJECT

SHEETS 1-20 AND 23-29

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REVISION	DATE	BY

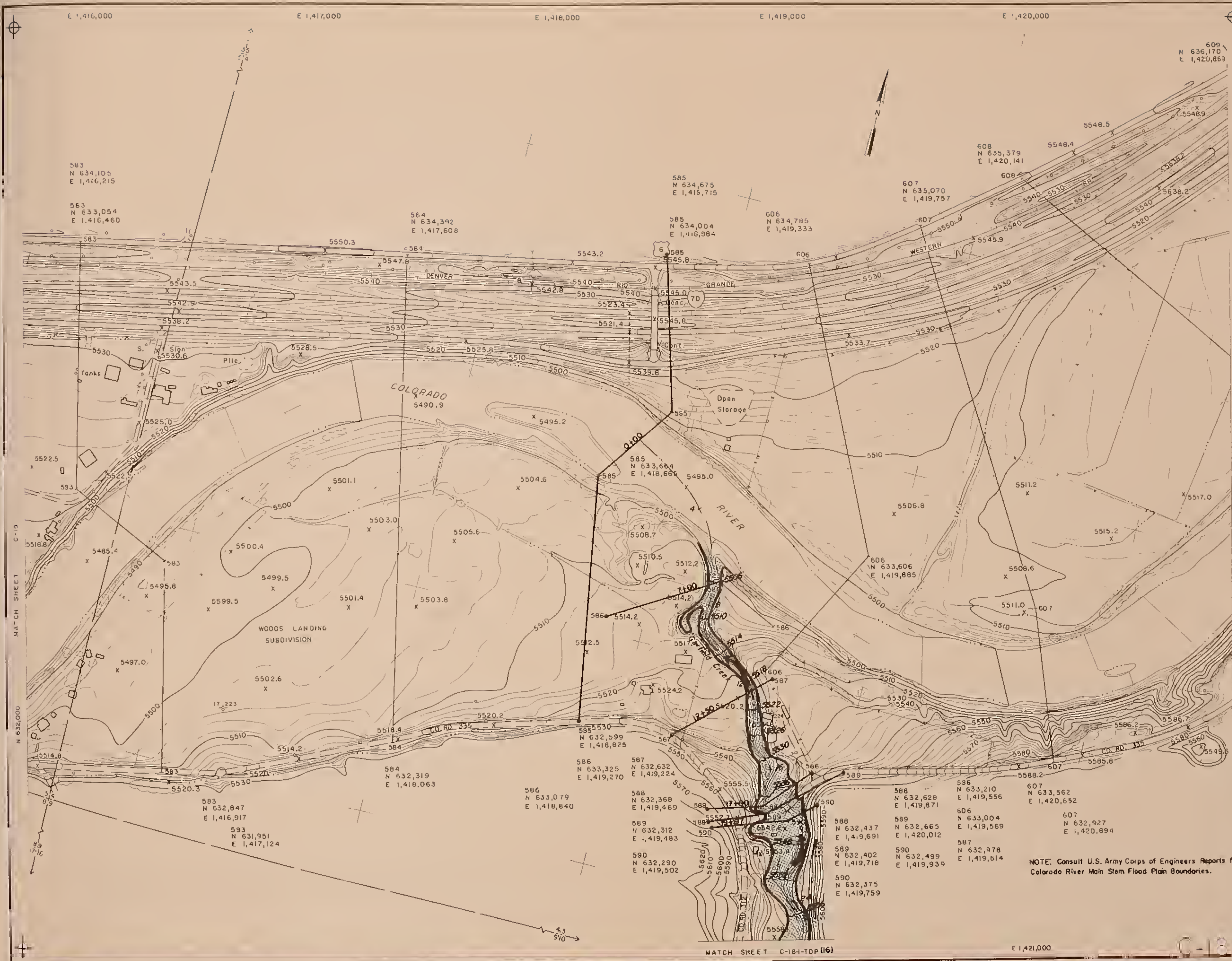
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FLOOD PLAINS
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

200 0 200 400 600
SCALE IN FEET

C-22-2

SHEET 14 OF 29



LEGEND
FLOOD PLAIN LIMITS

100 YEAR FLOOD

GROUND ELEVATION IN FEET MEAN SEA LEVEL DATUM — 5280
CONTOUR INTERVAL 2.0'
CROSS SECTION
CROSS SECTION CONTINUED
INTERMITTENT STREAM — Station in 100(1) from lower study limit
HORIZONTAL CONTROL △272
VERTICAL CONTROL
PHOTO CENTER
GRID POINT
100 YEAR FLOOD ELEV. 5280

C-69 INDEX NUMBER FOR COLORADO RIVER MAPPING PROJECT

SHEETS 1-20 AND 23-29

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SHEETS 21 & 22

COORDINATE SYSTEM IS THE MODIFIED COLORADO STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, LAMBERT CONFORMAL CONIC PROJECTION. THE FOLLOWING (USC &G AND USGS) TRIANGULATION STATIONS WERE USED: DRY HOLLOW X=1,395,770.68, Y=613,033.61, CASTLE X=1,432,094.81, Y=623,300.73, ANTLER X=1,371,760.95, Y=630,478.31. BASIS OF VERTICAL CONTROL: USC &GS AND USGS SEA LEVEL DATUM BASED ON THE FOLLOWING BENCHMARKS: RIFLE ELEV. 5319.199, NEW CASTLE ELEV. 5747.82. TOPOGRAPHY COMPILED BY PHOTOGRAMMETRIC METHODS FROM 6" CFL VERTICAL AERIAL PHOTOGRAPHY TAKEN JAN. 12, 1983. COMPILED BY BELL MAPPING CO., 500 KALAMATH ST. DENVER CO.

SHEET INDEX

STREAM	MAP SHEET	STREAM	MAP SHEET
PORCUPINE CR.	1 - 3	GARFIELD CR.	15-16
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MAMM CR.	5 - 8	S. CANYON CR.	19-22
DRY HOLLOW CR.	9 - 10	CANYON CR.	23-24
DIVIDE CR.	11 - 14	ELK CR.	25-29

REVISION	DATE	BY

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FLOOD PLAINS
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

SCALE 200 0 200 400 600 FEET

C-18

SHEET 15 OF 29

N 632,000 N 631,000 N 630,000 N 629,000 N 628,000

E 1,419,000 E 1,420,000 E 1,421,000

MATCH SHEET C-18 (15)

MATCH SHEET C-18-BOTTOM (16)

591 N 631,631 E 1,420,109

591 N 631,735 E 1,419,763

592 N 631,182 E 1,420,204

592 N 631,168 E 1,419,859

593 N 630,619 E 1,420,313

593 N 630,537 E 1,420,143

593 N 630,662 E 1,419,769

594 N 630,536 E 1,420,327

594 N 630,476 E 1,420,075

594 N 630,614 E 1,419,775

595 N 630,491 E 1,420,335

595 N 630,416 E 1,420,120

595 N 630,584 E 1,419,812

596 N 629,906 E 1,420,502

596 N 629,920 E 1,419,955

597 N 629,401 E 1,420,682

597 N 629,010 E 1,419,929

598 N 628,704 E 1,420,220

599 N 628,580 E 1,420,167

600 N 628,591 E 1,420,563

600 N 628,508 E 1,420,531

596 N 628,799 E 1,420,831

599 N 628,596 E 1,420,783

601 N 626,498 E 1,420,735

601 N 628,467 E 1,420,330

602 N 627,764 E 1,420,659

602 N 627,777 E 1,420,174

603 N 627,272 E 1,420,923

603 N 627,146 E 1,420,520

Garfield Creek

CO. RD. 312

MATCH SHEET C-18-TOP (18)

604 N 626,579 E 1,421,044

605 N 626,301 E 1,421,163

604 N 626,506 E 1,420,710

605 N 626,121 E 1,420,690

UPPER STUDY LIMIT

N. 627,000

N,626,000

LEGEND
FLOOD PLAIN LIMITS

100 YEAR FLOOD

GROUND ELEVATION IN FEET MEAN SEA LEVEL DATUM — 5280

CONTOUR INTERVAL 2.0'

CROSS SECTION A — A

CROSS SECTION CONTINUED

INTERMITTENT STREAM

HORIZONTAL CONTROL △272

VERTICAL CONTROL

PHOTO CENTER

GRID POINT

100 YEAR FLOOD ELEV. 5280

Station in 1001 from lower study limit

C-69 INDEX NUMBER FOR COLORADO RIVER MAPPING PROJECT

SHEETS 1-20 AND 23-29

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REVISION	DATE	BY

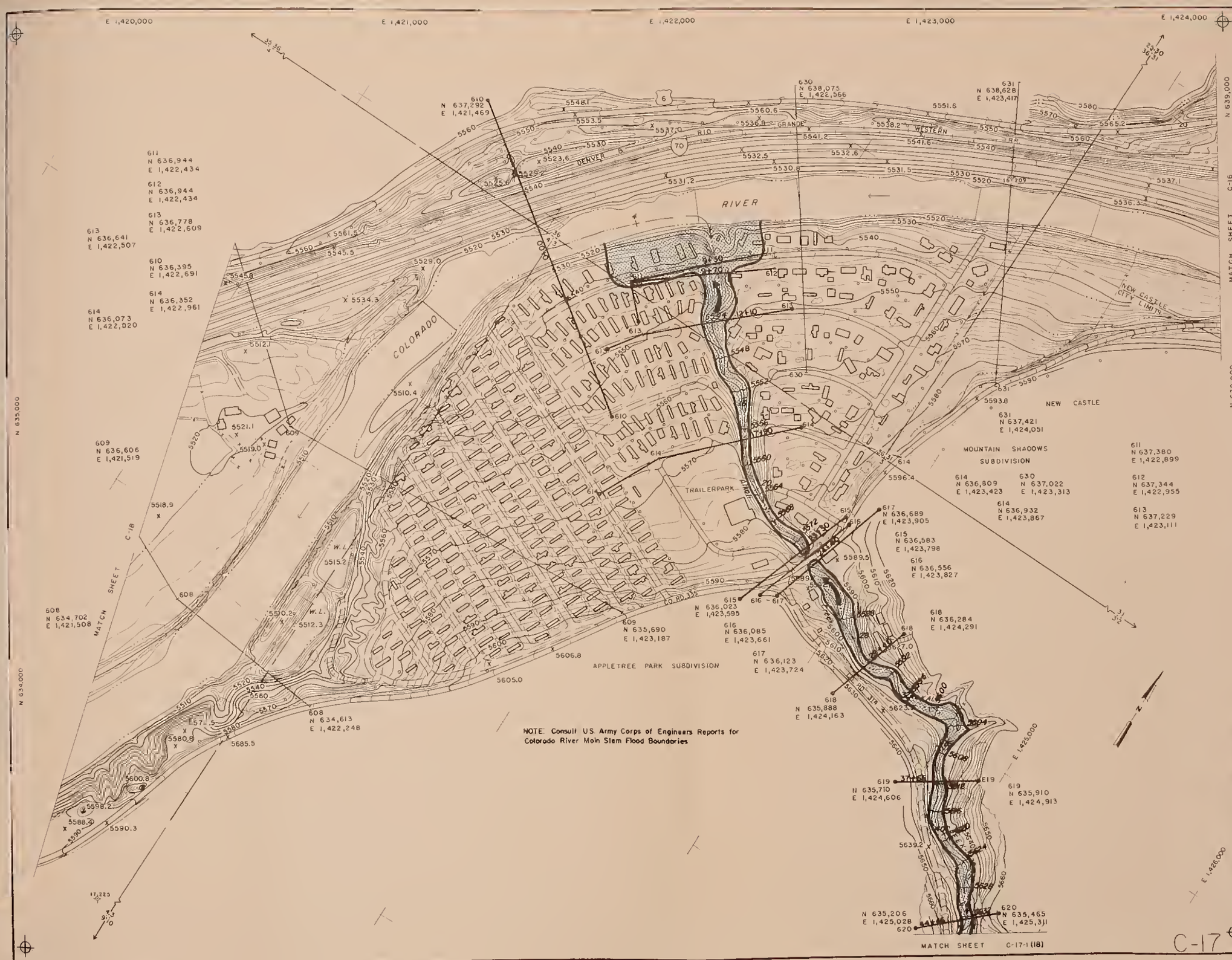
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FLOOD PLAINS
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

200 0 200 400 600
SCALE IN FEET

C-18-1

SHEET 16 OF 29



LEGEND
FLOOD PLAIN LIMITS

100 YEAR FLOOD

GROUND ELEVATION IN FEET MEAN SEA LEVEL DATUM 5280

CONTOUR INTERVAL 2.0'

CROSS SECTION A — A

CROSS SECTION CONTINUED

INTERMITTENT STREAM

HORIZONTAL CONTROL △272

VERTICAL CONTROL ⊙

PHOTO CENTER

GRID POINT

100 YEAR FLOOD ELEV. 5280

Station in 1001 from lower study limit

C-69 INDEX NUMBER FOR COLORADO RIVER MAPPING PROJECT

SHEETS 1-20 AND 23-29

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REVISION	DATE	BY

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FLOOD PLAINS
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

SCALE 200 0 200 400 600 FEET

SHEET 17 OF 29

C-17

N 636,000 N 635,000 N 634,000 N 633,000

E 1,426,000 E 1,429,000 E 1,428,000 E 1,427,000

N 632,000

C-17 (17)

E 1,426,000 MATCH SHEET C-17 (17)

17,228

17,227

621 N 635,235 E 1,425,808

621 N 634,862 E 1,425,506

622 N 634,582 E 1,426,212

622 N 634,344 E 1,425,915

623 N 634,221 E 1,426,612

623 N 633,956 E 1,426,378

624 N 633.910 E 1,426,567

624 N 634,010 E 1,426,414

625 N 634,121 E 1,426,704

625 N 633,737 E 1,426,395

626 N 633,821 E 1,427,249

626 N 633,199 E 1,427,165

627 N 633,419 E 1,427,878

628 N 633,131 E 1,428,330

628 N 632,898 E 1,426,145

629 N 632,646 E 1,426,861

629 N 632,418 E 1,426,604

UPPER STUDY LIMIT

LOWER STUDY LIMIT

Creek

CO RD 314

5793.0

5725.2

5711.5?

5660.2

5751.2

LEGEND
FLOOD PLAIN LIMITS

100 YEAR FLOOD

GROUND ELEVATION IN FEET MEAN SEA LEVEL DATUM — 5280

CONTOUR INTERVAL 2.0'

CROSS SECTION — A — A

CROSS SECTION CONTINUED

INTERMITTENT STREAM

HORIZONTAL CONTROL △272

VERTICAL CONTROL ⊙

PHOTO CENTER

GRID POINT +

100 YEAR FLOOD ELEV. 5280

Station in 100ft from lower study limit

C-69 INDEX NUMBER FOR COLORADO RIVER MAPPING PROJECT

SHEETS 1-20 AND 23-29

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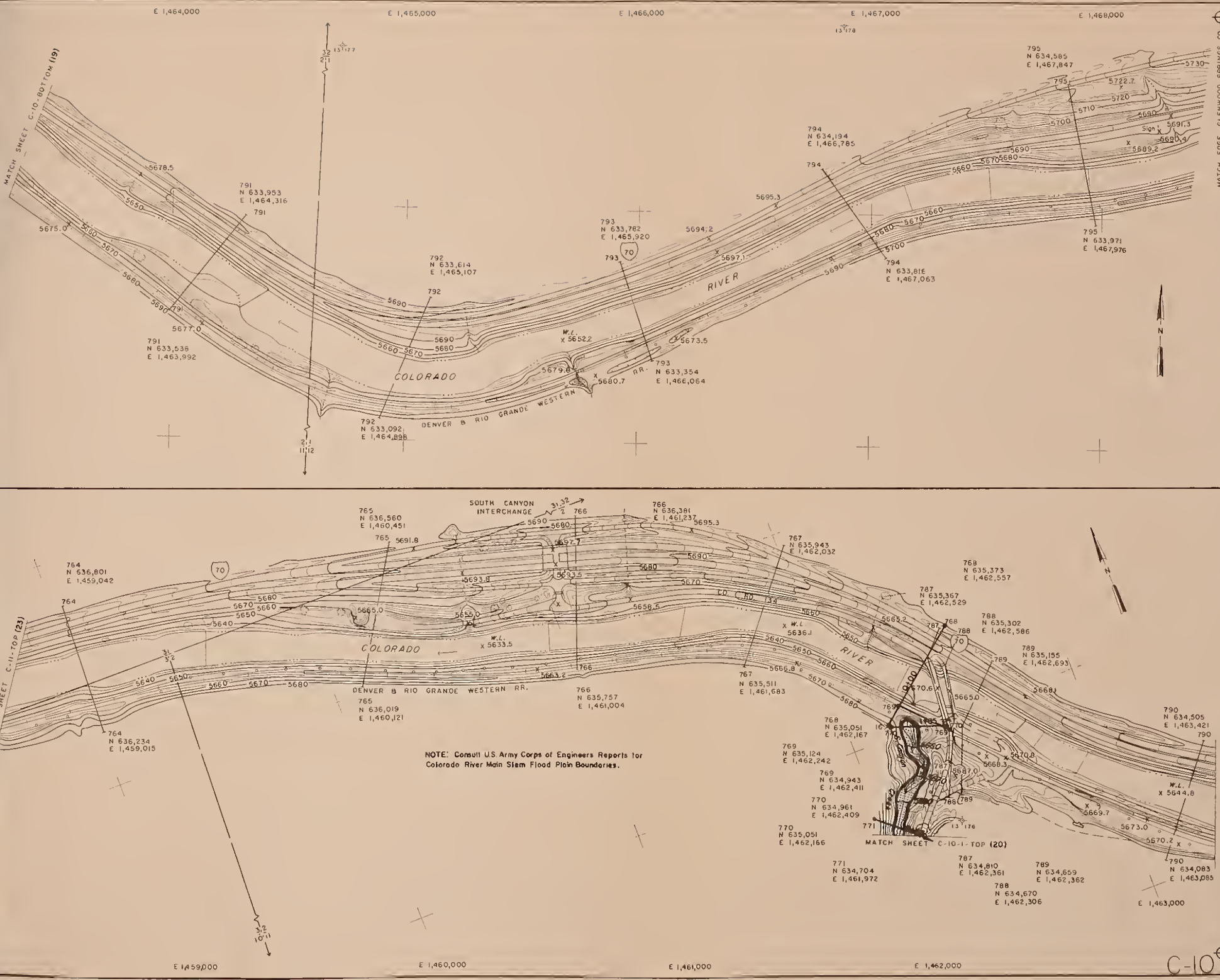
FLOOD PLAINS
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

SCALE 200 0 200 400 600 IN FEET

C-17-1

SHEET 18 OF 29



NOTE: Consult U.S. Army Corps of Engineers Reports for Colorado River Main Stem Flood Plain Boundaries.

LEGEND
FLOOD PLAIN LIMITS

100 YEAR FLOOD

GROUND ELEVATION IN FEET MEAN SEA LEVEL DATUM — 5280

CONTOUR INTERVAL 2.0'

CROSS SECTION A — A

CROSS SECTION CONTINUED

INTERMITTENT STREAM

HORIZONTAL CONTROL △272

VERTICAL CONTROL ⊙

PHOTO CENTER

GRID POINT +

100 YEAR FLOOD ELEV. 5280

Station in 100ft. from lower study limit

C-69 INDEX NUMBER FOR COLORADO RIVER MAPPING PROJECT

SHEETS 1-20 AND 23-29

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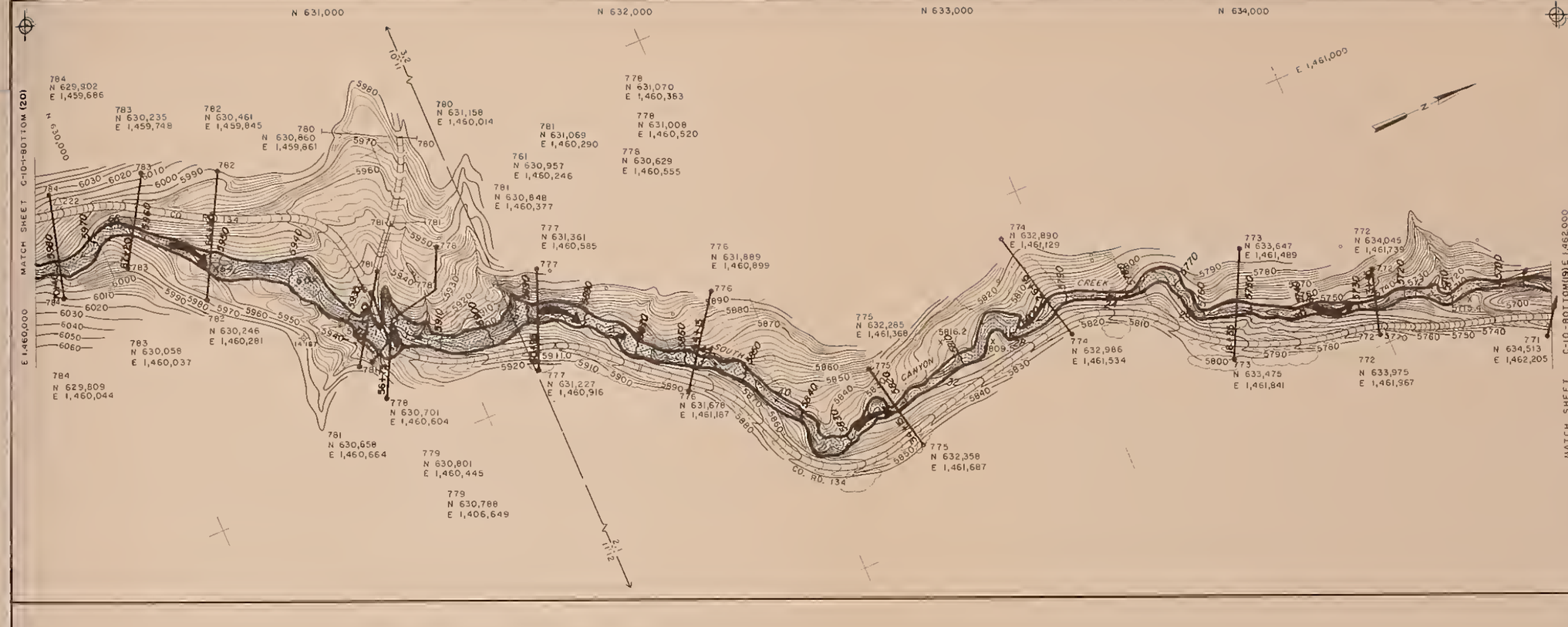
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

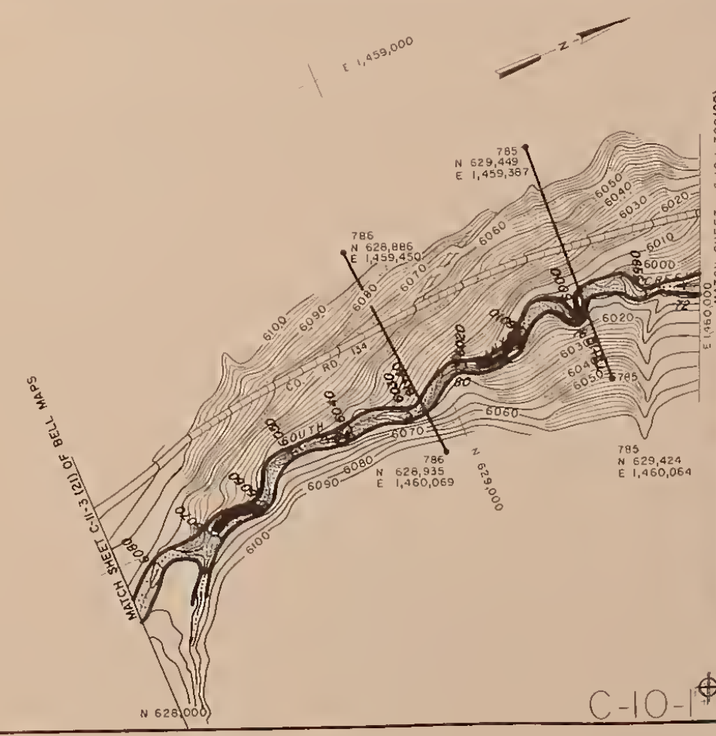
FLOOD PLAINS
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

SCALE 200 0 200 400 600 FEET

C-10

SHEET 19 OF 29





LEGEND
FLOOD PLAIN LIMITS

100 YEAR FLOOD

GROUND ELEVATION IN FEET MEAN SEA LEVEL DATUM — 5280

CONTOUR INTERVAL 2.0'

CROSS SECTION A — A

CROSS SECTION CONTINUED

INTERMITTENT STREAM

HORIZONTAL CONTROL △272

VERTICAL CONTROL ⊙

PHOTO CENTER

GRID POINT +

100 YEAR FLOOD ELEV. 5280

Station in 1000 ft. from lower study limit

C-69 INDEX NUMBER FOR COLORADO RIVER MAPPING PROJECT

SHEETS 1-20 AND 23-29

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REVISION	DATE	BY

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SOIL CONSERVATION SERVICE

FLOOD PLAINS
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES IN GARFIELD COUNTY COLORADO

200 0 200 400 600
SCALE IN FEET

SHEET 20 OF 29

C-10-I

MATCH SHEET C10-1 (20) BY ANALYTICAL SURVEYS INC.

E 1,456,000 E 1,457,000 E 1,458,000 MATCH SHEET C-11-2 E 1,459,000 E 1,460,000 E 1,461,000

N 626,000 N 627,000 N 626,000 N 625,000 N 624,000

MATCH SHEET C-12-3 MATCH SHEET C-9-3

MAP LIMIT

DENSE TREES

MATCH SHEET C-11-3 (22)

LEGEND
FLOOD PLAIN LIMITS

100 YEAR FLOOD

GROUND ELEVATION IN FEET MEAN SEA LEVEL DATUM — 5280

CONTOUR INTERVAL 2.0'

CROSS SECTION A — A

CROSS SECTION CONTINUED

INTERMITTENT STREAM

HORIZONTAL CONTROL △272

VERTICAL CONTROL ⊙

PHOTO CENTER ◇

GRID POINT +

100 YEAR FLOOD ELEV. 5280

Station in 100ft. from lower study limit

C-69 INDEX NUMBER FOR COLORADO RIVER MAPPING PROJECT

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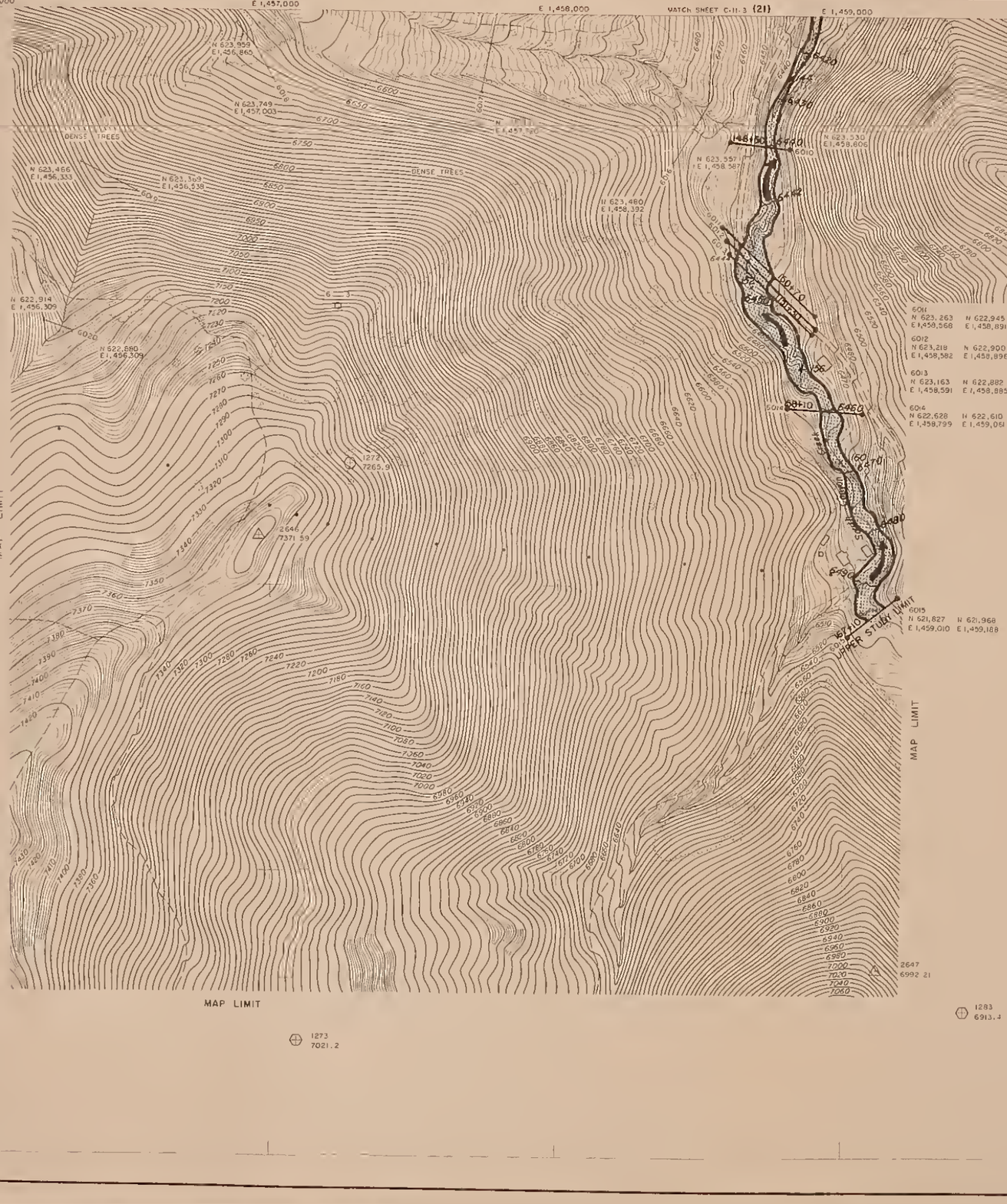
SOIL CONSERVATION SERVICE

FLOOD PLAINS
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

SCALE 200 0 200 400 600 IN FEET

SHEET 21 OF 29



LEGEND
FLOOD PLAIN LIMITS

100 YEAR FLOOD

GROUND ELEVATION IN FEET MEAN SEA LEVEL DATUM — 5280

CONTOUR INTERVAL 2.0'

CROSS SECTION — A — A

CROSS SECTION CONTINUED

INTERMITTENT STREAM

HORIZONTAL CONTROL △272

VERTICAL CONTROL ⊙

PHOTO CENTER ⊕

GRID POINT +

100 YEAR FLOOD ELEV. — 5280

Station in 100ft. from lower study limit

C-69 INDEX NUMBER FOR COLORADO RIVER MAPPING PROJECT

SHEETS 1-20 AND 23-29

TOPOGRAPHY COMPILED BY PHOTOGRAMMETRIC METHODS FROM 6" C.F.L. VERTICAL AERIAL PHOTOGRAPHY TAKEN NOV. 15,16 & 17, 1982. BASIS OF HORIZONTAL CONTROL: THE COLORADO STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, LAMBERT CONFORMAL CONIC PROJECTION. THE FOLLOWING (USC & GS AND /OR USGS) TRIANGULATION STATIONS WERE USED: CATHERINE COORDINATES X=1,516,508.42 Y=581,255.78. GNAT- X=1,231,566.60 Y=523,643.10. BASIS OF VERTICAL CONTROL: USC & GS SEA LEVEL DATUM BASED ON THE FOLLOWING BENCHMARKS: D-156 ELEVATION 6192.284. 4870.74PS ELEVATION 4869.860. PREPARED BY ANALYTICAL SURVEYS, INC. 4167 SINTON ROAD, COLORADO SPRINGS, CO. 80907.

SHEETS 21 & 22

COORDINATE SYSTEM IS THE MODIFIED COLORADO STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, LAMBERT CONFORMAL CONIC PROJECTION. THE FOLLOWING (USC&G AND USGS) TRIANGULATION STATIONS WERE USED: DRY HOLLOW X=1,395,770.68, Y=613,033.61, CASTLE X=1,432,094.81, Y=623,300.73, ANTLER X=1,371,760.95, Y=630,478.31. BASIS OF VERTICAL CONTROL: USC&GS AND USGS. SEA LEVEL DATUM BASED ON THE FOLLOWING BENCHMARKS: RIFLE ELEV. 5319.199, NEW CASTLE ELEV. 5747.82. TOPOGRAPHY COMPILED BY PHOTOGRAMMETRIC METHODS FROM 6" CFL VERTICAL AERIAL PHOTOGRAPHY TAKEN JAN. 12, 1983. COMPILED BY BELL MAPPING CO., 500 KALAMATH ST. DENVER CO.

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DRY HOLLOW CR.	9 - 10	CANYON CR.	23-24
DIVIDE CR.	11 - 14	ELK CR.	25-29

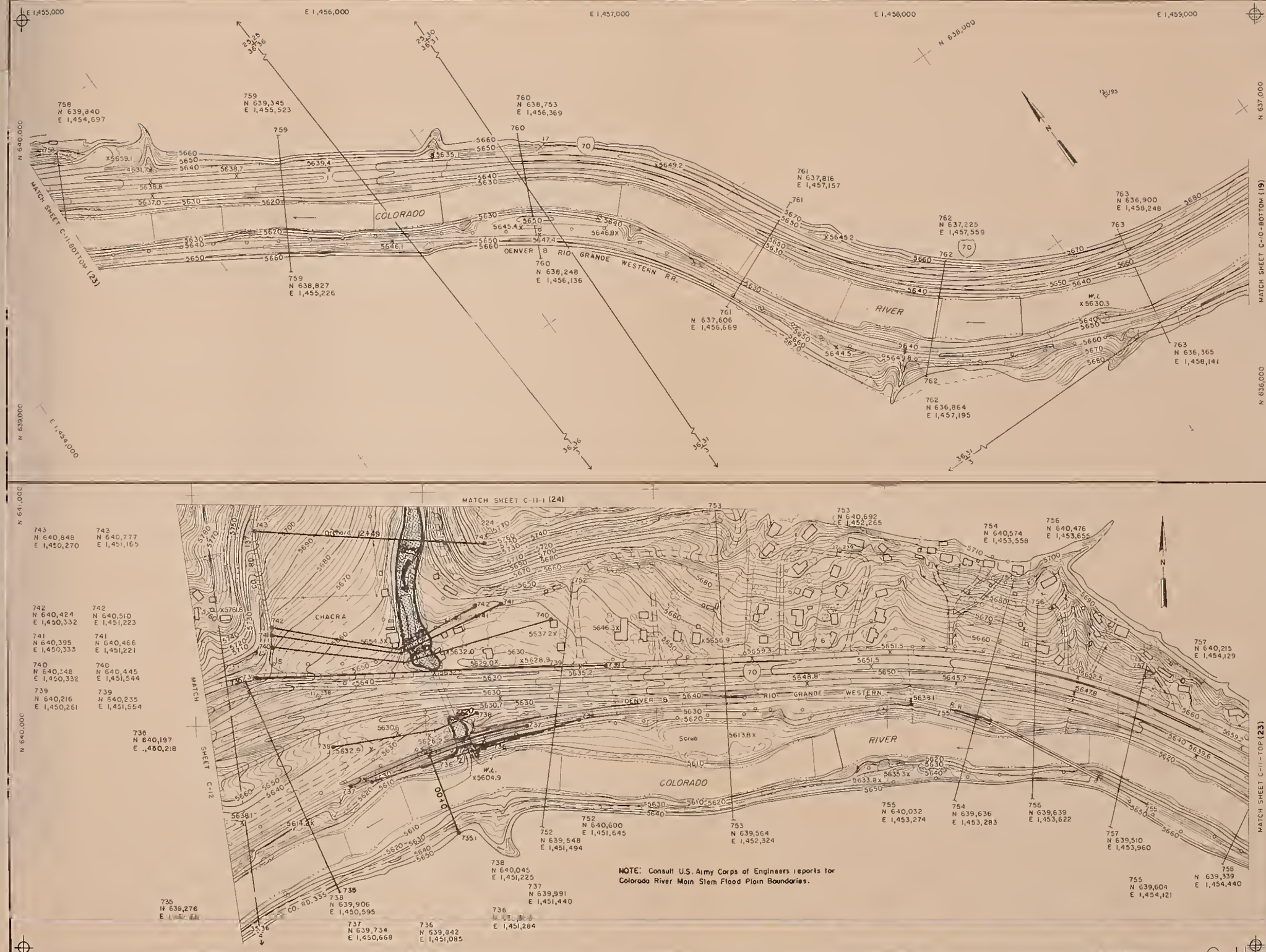
REVISION	DATE	BY

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FLOOD PLAINS
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

200 0 200 400 600
SCALE IN FEET

SHEET 22 OF 29



LEGEND
FLOOD PLAIN LIMITS

100 YEAR FLOOD

GROUND ELEVATION IN FEET MEAN SEA LEVEL DATUM — 5280

CONTOUR INTERVAL 2.0'

CROSS SECTION — A — A

CROSS SECTION CONTINUED

INTERMITTENT STREAM

HORIZONTAL CONTROL △272

VERTICAL CONTROL ⊙

PHOTO CENTER ⊕

GRID POINT +

100 YEAR FLOOD ELEV. 5280

Station in 100ft from lower study limit

C-69 INDEX NUMBER FOR COLORADO RIVER MAPPING PROJECT

SHEETS 1-20 AND 23-29

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ORY HOLLOW CR.	9 -10	CANYON CR	23-24
DIVIDE CR.	11 -14	ELK CR.	25-29

REVISION	DATE	BY

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FLOOD PLAINS
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

SCALE 200 0 200 400 600 IN FEET

C-11

SHEET 23 OF 29

N 646,000 N 645,000 N 644,000 N 643,000 N 642,000 N 641,000

E 1,453,000 E 1,452,000 E 1,451,000 E 1,450,000

MATCH SHEET C-11-BOTTOM (23)

MATCH SHEET C-12

751
N 645,538
E 1,451,323

750
N 644,744
E 1,451,167

749
N 644,044
E 1,451,056

748
N 643,494
E 1,451,045

747
N 642,904
E 1,451,108

746
N 642,664
E 1,451,200

745
N 642,188
E 1,451,320

744
N 641,490
E 1,451,221

751
N 645,644
E 1,450,944

750
N 644,878
E 1,450,765

749
N 644,053
E 1,450,587

748
N 643,454
E 1,450,577

747
N 642,804
E 1,450,748

746
N 642,556
E 1,450,925

745
N 642,211
E 1,450,556

746
N 642,521
E 1,450,690

744
N 641,417
E 1,450,724

744
N 641,450
E 1,450,426

15,191

24,25
23,26

25,36
25,36

26,35
27,34

SHION-KOPP DITCH

Pipeline

Canyon Creek

RED SCHOOLHOUSE

Orchard

CO. RD. 137

LEGEND
FLOOD PLAIN LIMITS

100 YEAR FLOOD

GROUND ELEVATION IN FEET MEAN SEA LEVEL DATUM — 5280

CONTOUR INTERVAL 2.0'

CROSS SECTION A — A

CROSS SECTION CONTINUED

INTERMITTENT STREAM

HORIZONTAL CONTROL △272

VERTICAL CONTROL ⊙

PHOTO CENTER ⊙

GRID POINT +

100 YEAR FLOOD ELEV. 5280

Station in 1000 ft. from lower study limit

C-69 INDEX NUMBER FOR COLORADO RIVER MAPPING PROJECT

SHEETS 1-20 AND 23-29

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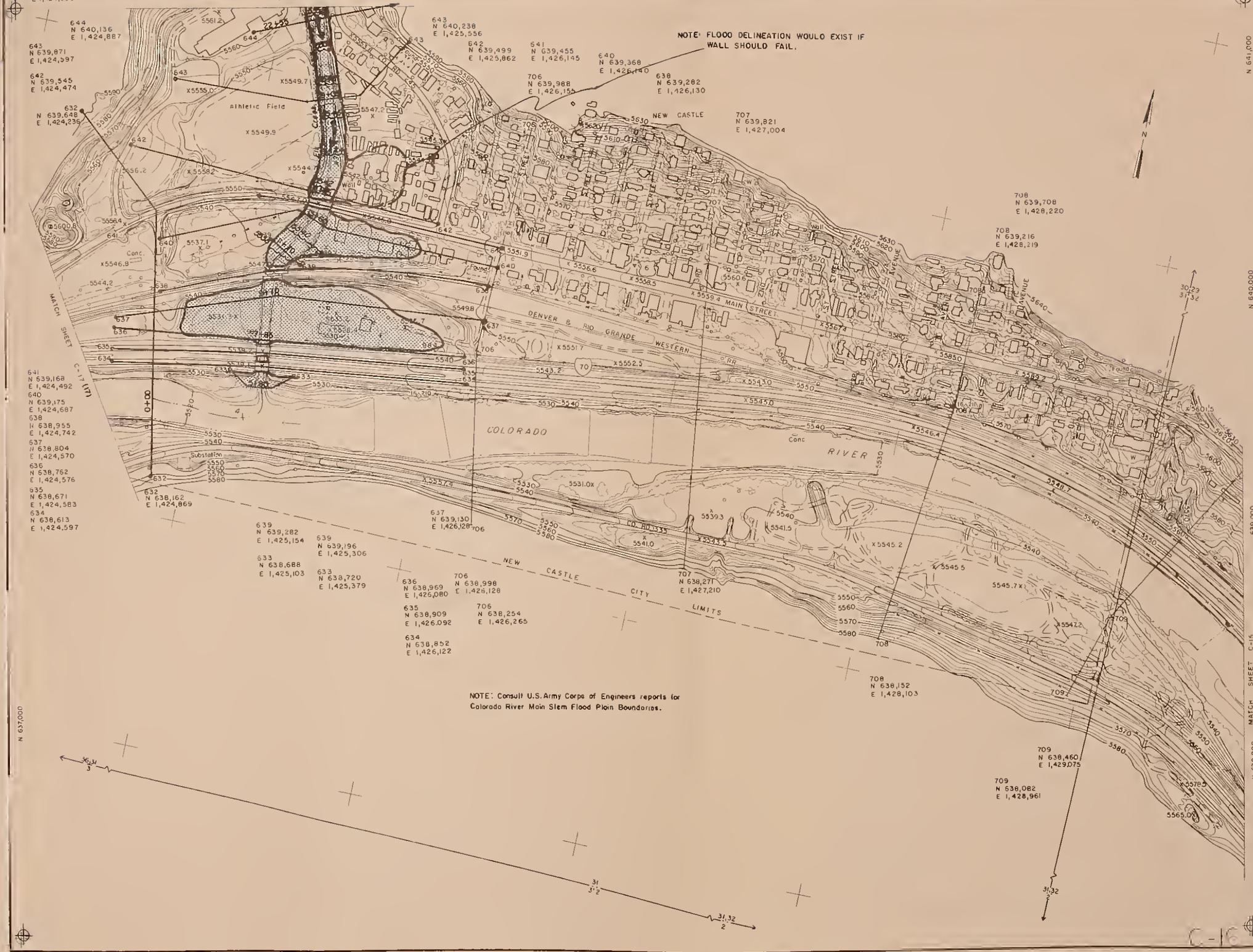
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FLOOD PLAINS
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

200 0 200 400 600
SCALE IN FEET

SHEET 24 OF 29

C-11-1



NOTE: Consult U.S. Army Corps of Engineers reports for Colorado River Main Stem Flood Plain Boundaries.

LEGEND
FLOOD PLAIN LIMITS

100 YEAR FLOOD

GROUND ELEVATION IN FEET MEAN SEA LEVEL DATUM — 5280

CONTOUR INTERVAL 2.0'

CROSS SECTION A — A

CROSS SECTION CONTINUED

INTERMITTENT STREAM

HORIZONTAL CONTROL △272

VERTICAL CONTROL ⊙

PHOTO CENTER ⊕

GRID POINT +

100 YEAR FLOOD ELEV. 5280

Station in 1000ft. from lower study limit

C-69 INDEX NUMBER FOR COLORADO RIVER MAPPING PROJECT

SHEETS 1-20 AND 23-29

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REVISION	DATE	BY

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FLOOD PLAINS
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

SCALE 200 0 200 400 600 IN FEET

C-16

SHEET 25 OF 29

LEGEND
FLOOD PLAIN LIMITS

100 YEAR FLOOD

GROUND ELEVATION IN FEET MEAN SEA LEVEL DATUM — 5280

CONTOUR INTERVAL 2.0'

CROSS SECTION A — A

CROSS SECTION CONTINUED

INTERMITTENT STREAM

HORIZONTAL CONTROL △272

VERTICAL CONTROL ⊙

PHOTO CENTER

GRID POINT +

100 YEAR FLOOD ELEV. 5280

Station in 100 ft from lower study limit

C-69 INDEX NUMBER FOR COLORADO RIVER MAPPING PROJECT

SHEETS 1-20 AND 23-29

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REVISION	DATE	BY

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FLOOD PLAINS
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

SCALE 200 0 200 400 600 IN FEET

SHEET 26 OF 29

LEGEND
FLOOD PLAIN LIMITS

100 YEAR FLOOD

GROUND ELEVATION IN FEET MEAN SEA LEVEL DATUM — 5280

CONTOUR INTERVAL 2.0'

CROSS SECTION — A — A

CROSS SECTION CONTINUED

INTERMITTENT STREAM

HORIZONTAL CONTROL △272

VERTICAL CONTROL ○

PHOTO CENTER ◇

GRID POINT +

100 YEAR FLOOD ELEV. 5280

Station in 100ft from lower study limit

C-69 INDEX NUMBER FOR COLORADO RIVER MAPPING PROJECT

SHEETS 1-20 AND 23-29

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REVISION	DATE	BY

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FLOOD PLAINS
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES IN GARFIELD COUNTY COLORADO

SCALE 200 0 200 400 600 IN FEET

C-16-2

SHEET 27 OF 29

LEGEND
FLOOD PLAIN LIMITS

100 YEAR FLOOD

GROUND ELEVATION IN FEET MEAN SEA LEVEL DATUM 5280

CONTOUR INTERVAL 2.0'

CROSS SECTION A — A

CROSS SECTION CONTINUED

INTERMITTENT STREAM

HORIZONTAL CONTROL △272

VERTICAL CONTROL

PHOTO CENTER

GRID POINT

100 YEAR FLOOD ELEV. 5280

Station in 100ft from lower study limit

C-69 INDEX NUMBER FOR COLORADO RIVER MAPPING PROJECT

SHEETS 1-20 AND 23-29

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U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FLOOD PLAINS
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

SCALE IN FEET: 200 0 200 400 600

C-16-2-1

SHEET 28 OF 29

LEGEND

FLOOD PLAIN LIMITS

100 YEAR FLOOD

GROUNO ELEVATION IN FEET MEAN SEA LEVEL DATUM — 5280

CONTOUR INTERVAL 2.0'

CROSS SECTION — A A

CROSS SECTION CONTINUEO

INTERMITTENT STREAM

HORIZONTAL CONTROL — △272

VERTICAL CONTROL

Station in 100 ft from lower study limit

PHOTO CENTER

GRIO POINT

100 YEAR FLOOO ELEV. — 5280

C-69 INOEX NUMBER FOR COLORADO RIVER MAPPING PROJECT

SHEETS 1-20 AND 23-29

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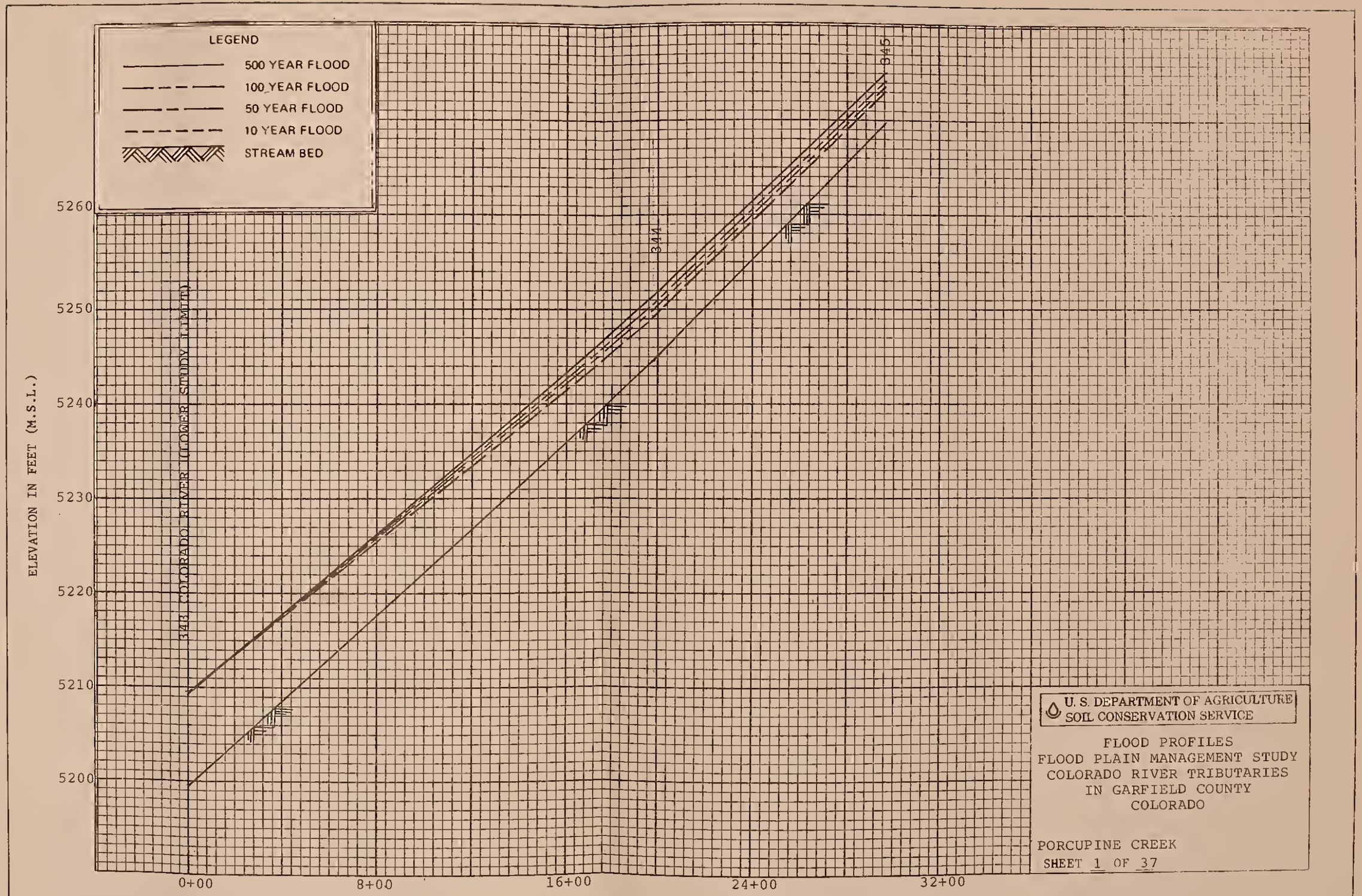
REVISION	DATE	BY

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FLOOD PLAINS
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES IN GARFIELD COUNTY COLORADO

SCALE: 200 0 200 400 600 FEET

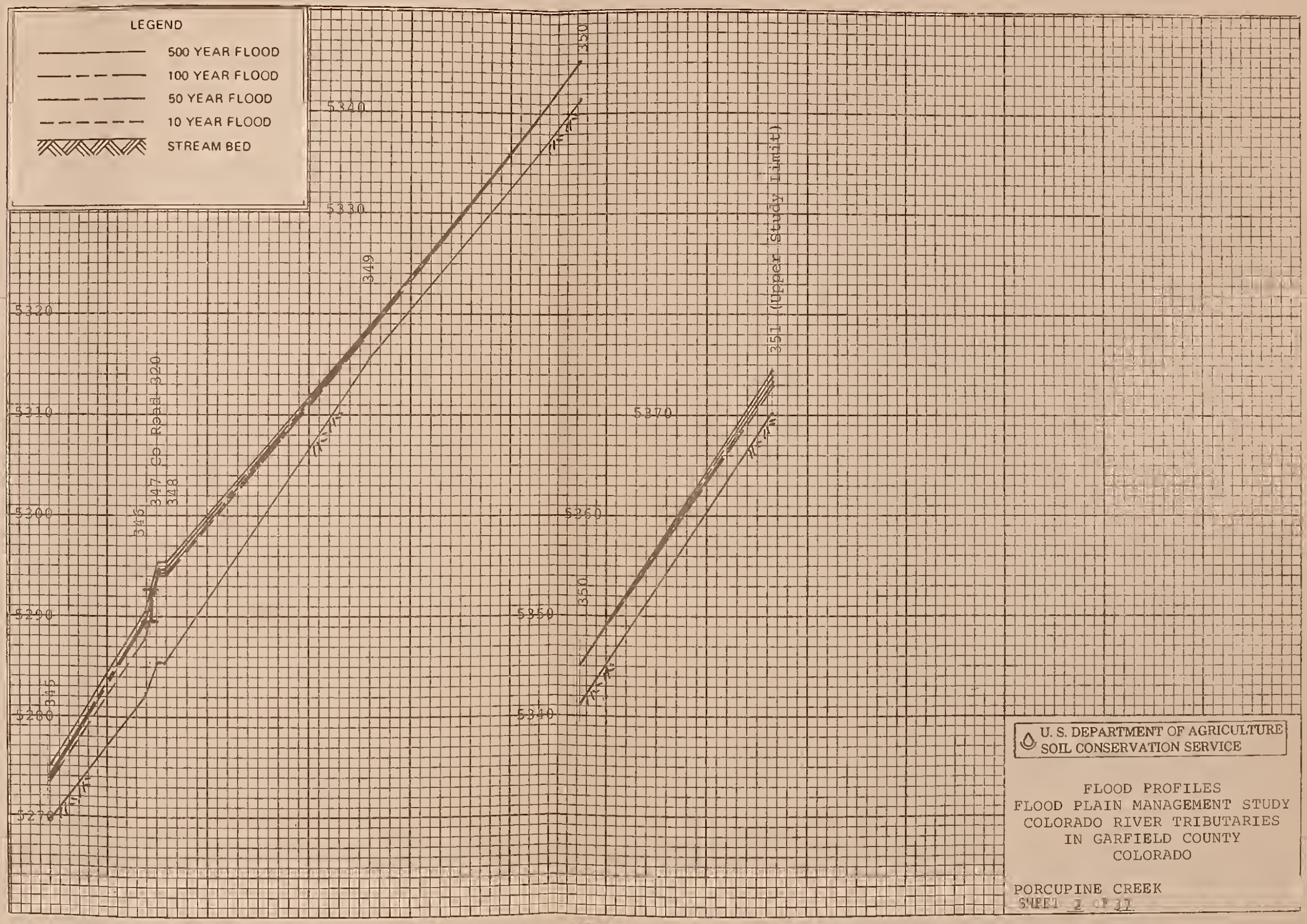
C-16-3

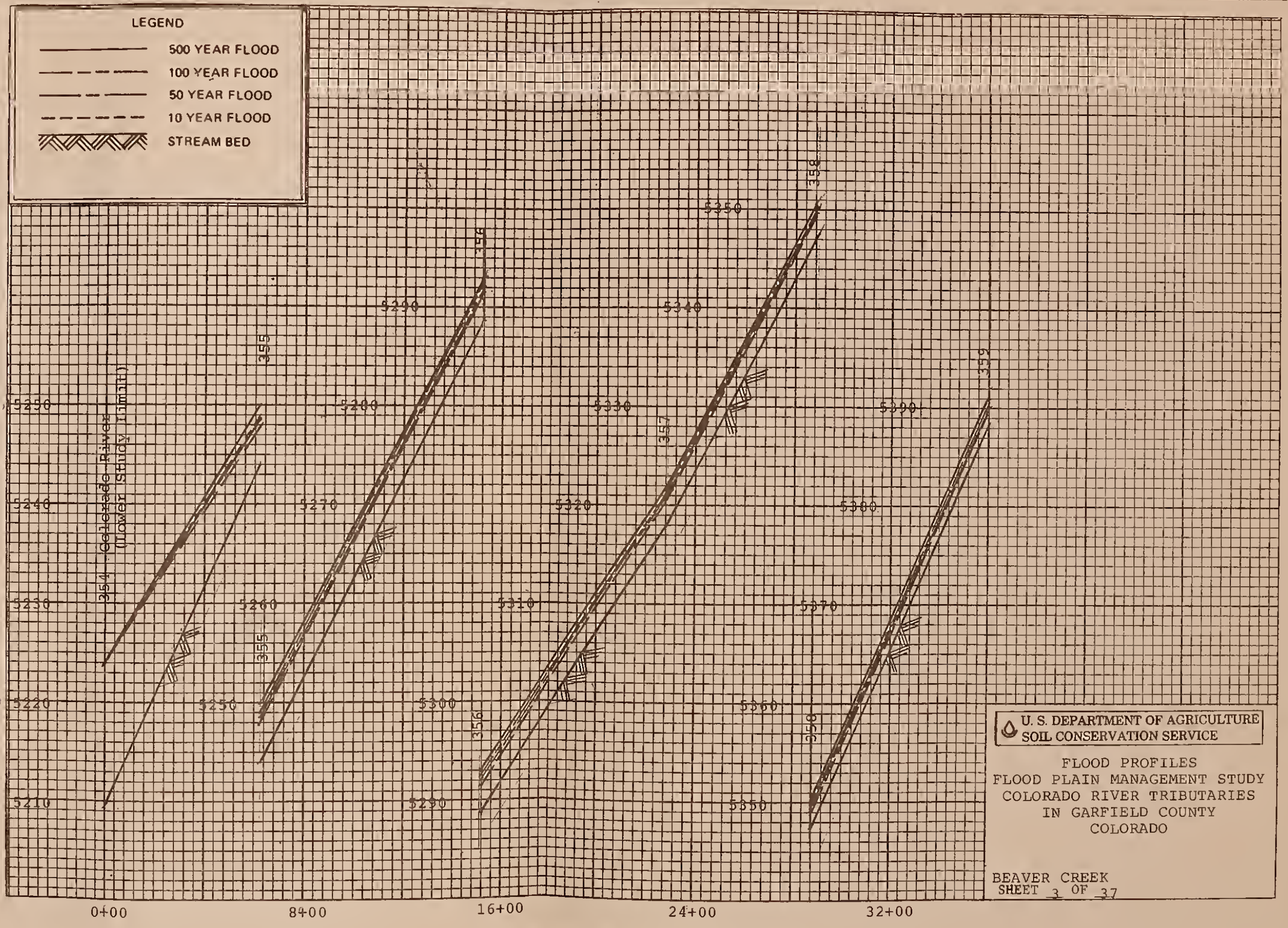


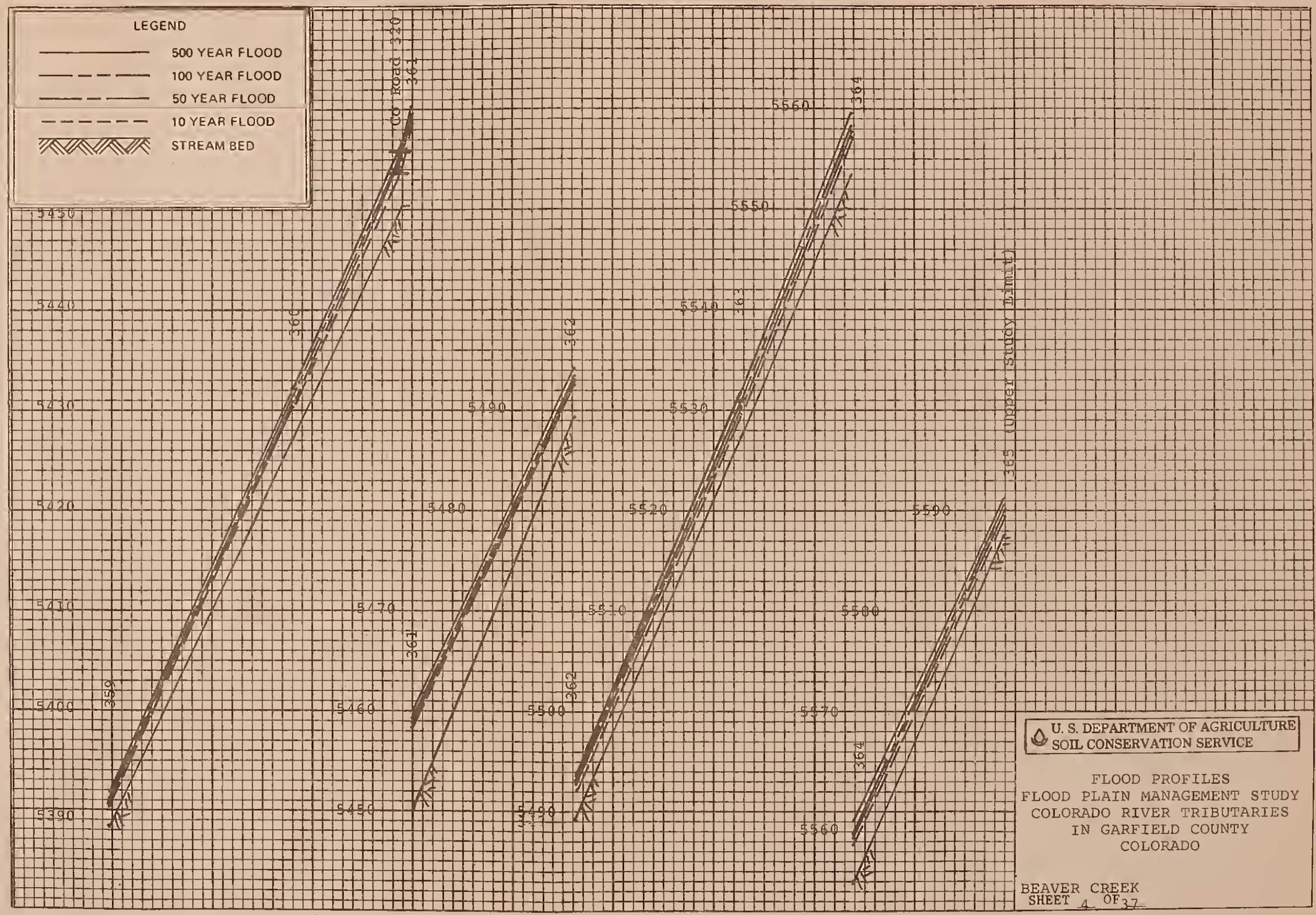
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

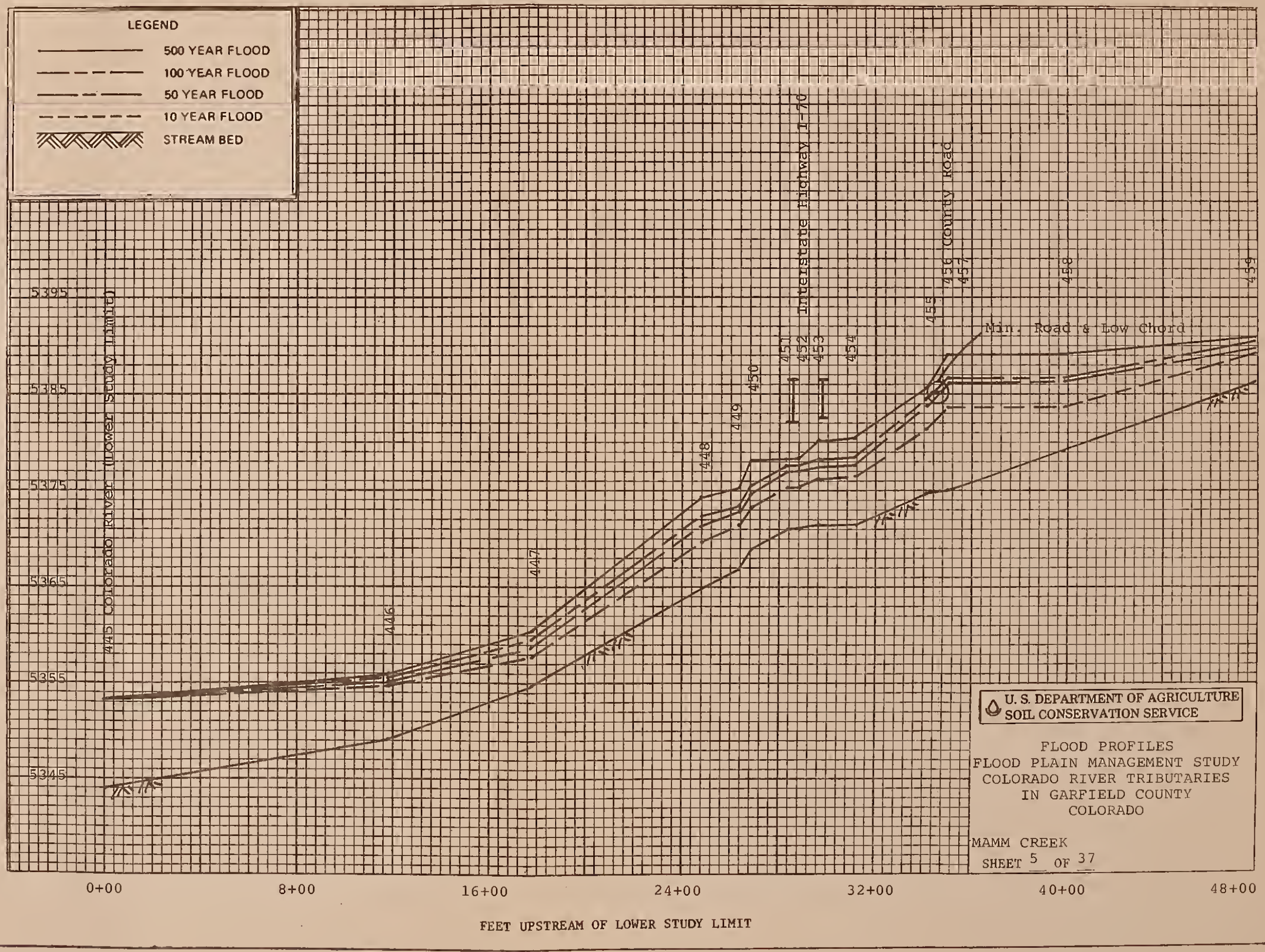
FLOOD PROFILES
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

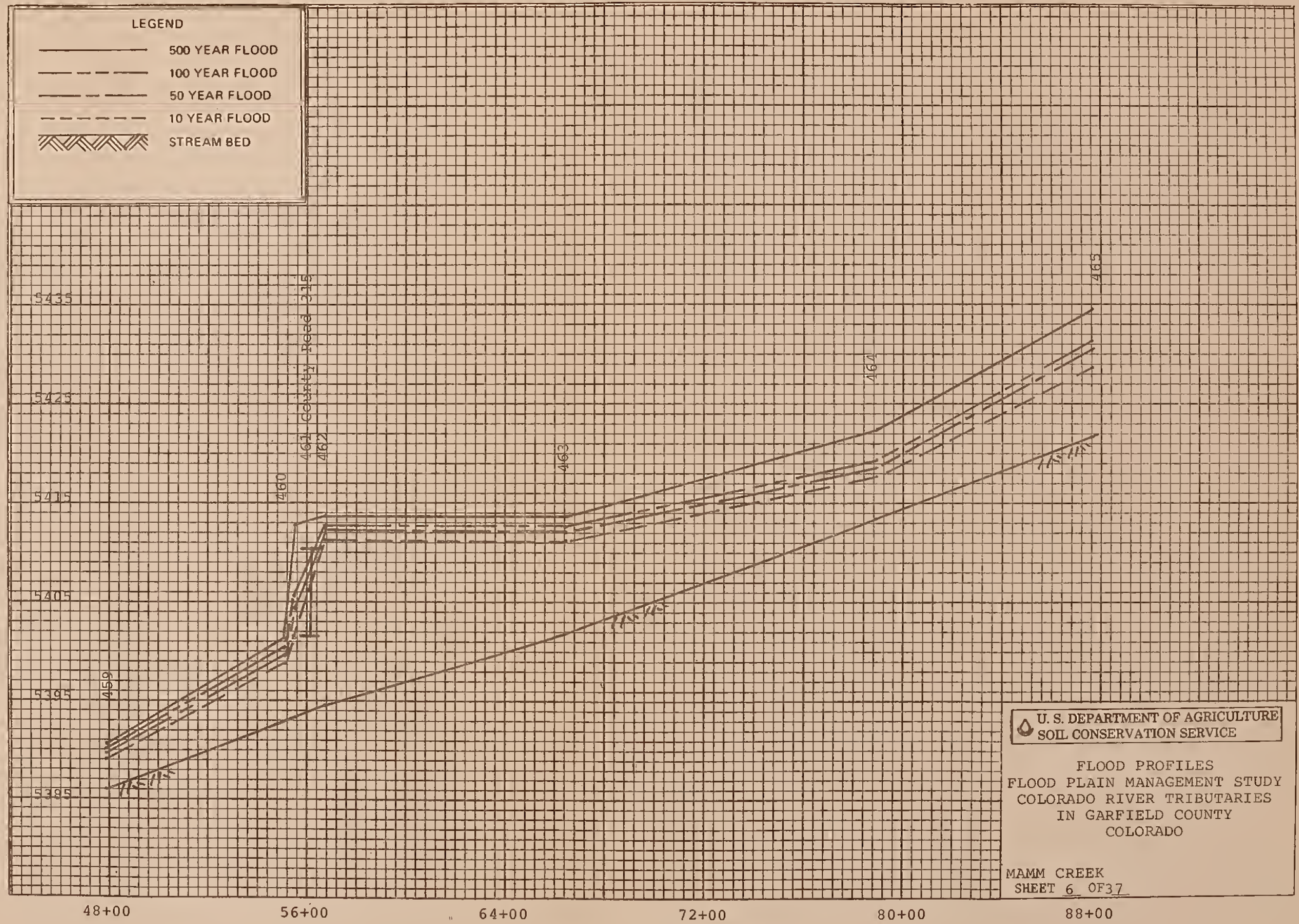
PORCUPINE CREEK
SHEET 1 OF 37


LEGEND
500 YEAR FLOOD
100 YEAR FLOOD
50 YEAR FLOOD
10 YEAR FLOOD
STREAM BED
ELEVATION IN FEET (M.S.L.)
5340
5330
5320
5310
5300
5290
5280
5270
345
346
347
348
349
350
351
Co Road 320
5370
5360
5350
5340
28+00
36+00
44+00
52+00
60+00
FEET UPSTREAM OF LOWER STUDY LIMIT
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
FLOOD PROFILES
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO
PORCUPINE CREEK
SHEET 2 OF 17


LEGEND
500 YEAR FLOOD
100 YEAR FLOOD
50 YEAR FLOOD
10 YEAR FLOOD
STREAM BED
ELEVATION IN FEET (M.S.L.)
354 Colorado River (Lower Study Limit)
355
356
357
358
359
5250
5240
5230
5220
5210
5270
5260
5250
5290
5280
5310
5300
5330
5320
5350
5340
5370
5360
5390
5380
0+00
8+00
16+00
24+00
32+00
FEET UPSTREAM OF LOWER STUDY LIMIT
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
FLOOD PROFILES
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO
BEAVER CREEK
SHEET 3 OF 37


LEGEND
500 YEAR FLOOD
100 YEAR FLOOD
50 YEAR FLOOD
10 YEAR FLOOD
STREAM BED
ELEVATION IN FEET (M.S.L.)
5430
5440
5430
5420
5410
5400
5390
5490
5480
5470
5460
5450
5560
5550
5540
5530
5520
5510
5500
5590
5580
5570
5560
CO Road 330
364
366
362
361
359
363
365 (Upper Study Limit)
36+00
44+00
52+00
60+00
68+00
FEET UPSTREAM OF LOWER STUDY LIMIT
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
FLOOD PROFILES
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO
BEAVER CREEK
SHEET 4 OF 37


LEGEND
500 YEAR FLOOD
100 YEAR FLOOD
50 YEAR FLOOD
10 YEAR FLOOD
STREAM BED
ELEVATION IN FEET (M.S.L.)
5395
5385
5375
5365
5355
5345
445 Colorado River (Lower Study Limit)
446
447
448
449
450
451
452
453
454
455
456 County Road
457
458
459
Interstate Highway I-70
Min. Road & Low Chord
0+00
8+00
16+00
24+00
32+00
40+00
48+00
FEET UPSTREAM OF LOWER STUDY LIMIT
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
FLOOD PROFILES
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO
MAMM CREEK
SHEET 5 OF 37



U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FLOOD PROFILES
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

MAMM CREEK
SHEET 6 OF 37

LEGEND

500 YEAR FLOOD

100 YEAR FLOOD

50 YEAR FLOOD

10 YEAR FLOOD

STREAM BED

ELEVATION IN FEET (M.S.L.)

5470

5460

5450

5440

5430

5420

466

467

468

469 (Upper Study Limit)

88+00

96+00

104+00

112+00

120+00

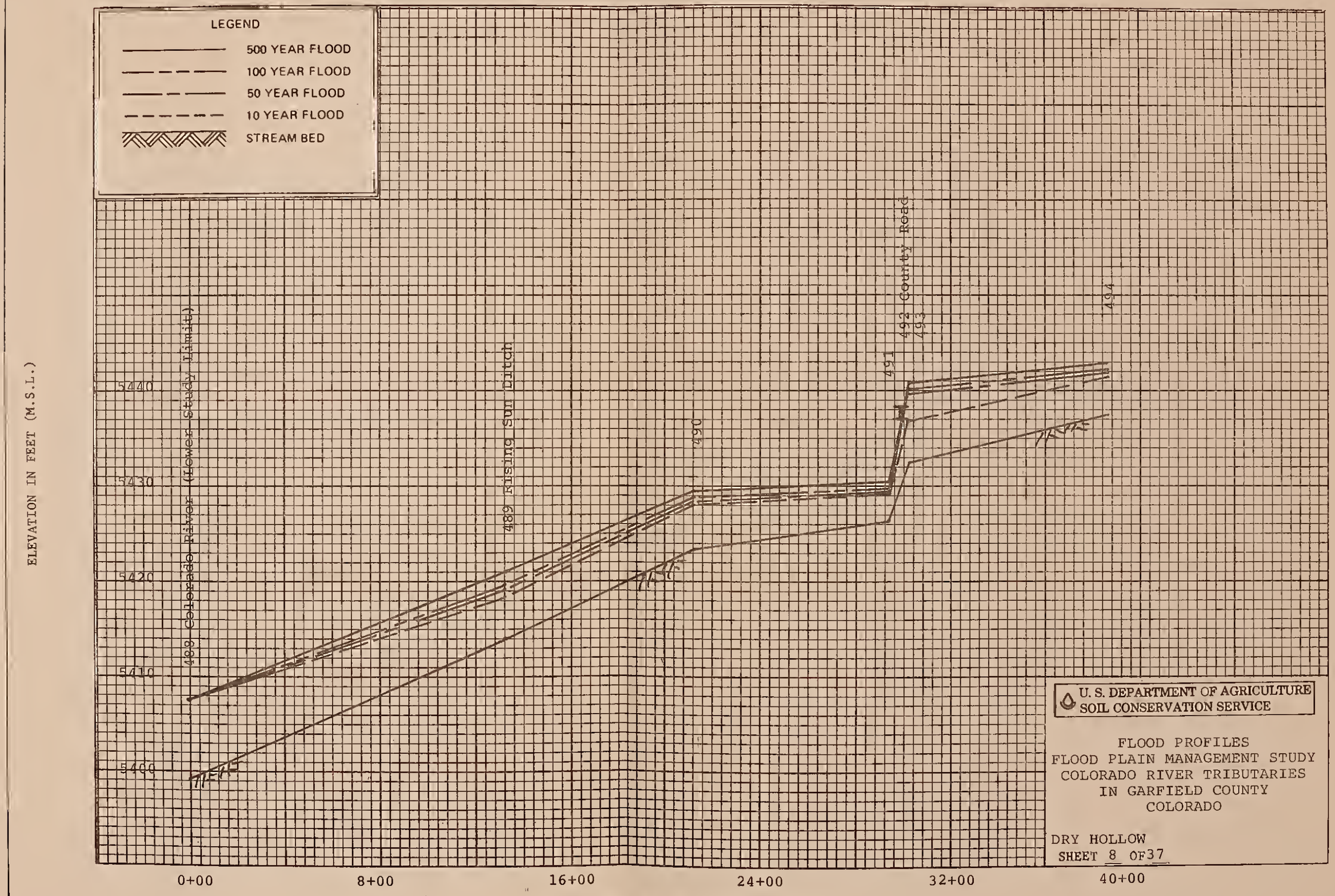
128+00

FEET UPSTREAM OF LOWER STUDY LIMIT

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FLOOD PROFILES
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

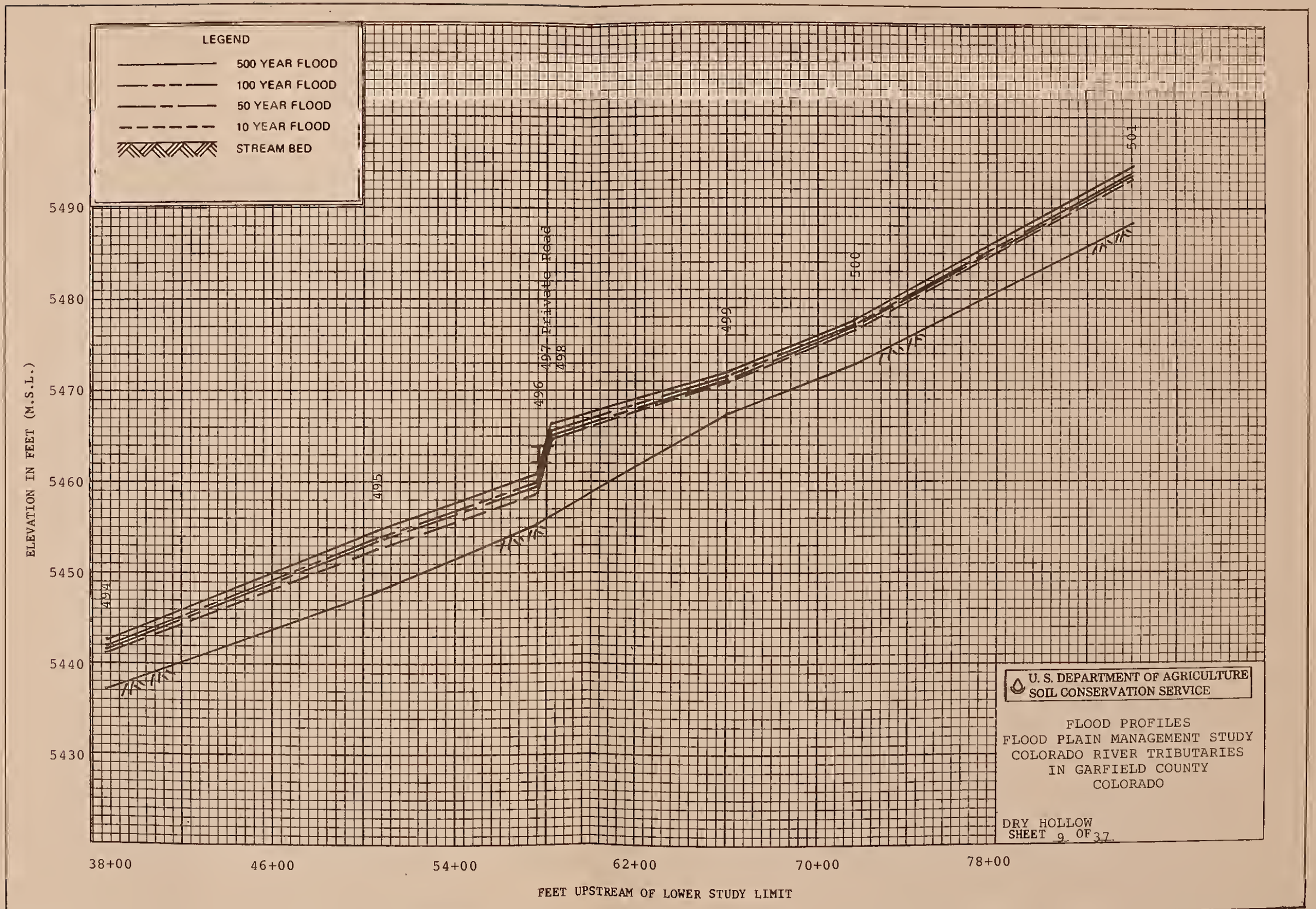
MAMM CREEK
SHEET 7 OF 37

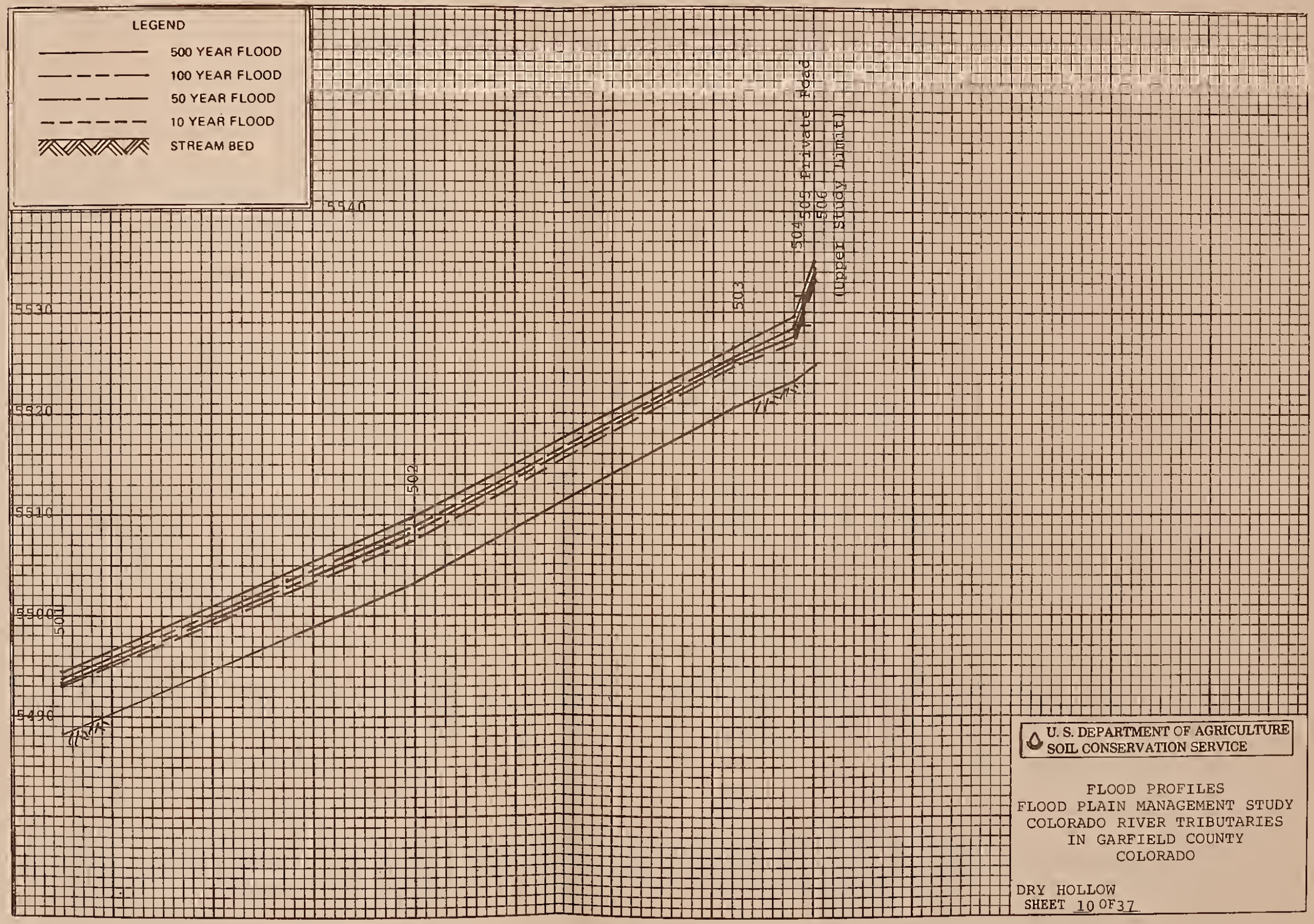


U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FLOOD PROFILES
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

DRY HOLLOW
SHEET 8 OF37


LEGEND
500 YEAR FLOOD
100 YEAR FLOOD
50 YEAR FLOOD
10 YEAR FLOOD
STREAM BED
ELEVATION IN FEET (M.S.L.)
5490
5480
5470
5460
5450
5440
5430
492
495
496
497
498
499
506
501
Private Road
38+00
46+00
54+00
62+00
70+00
78+00
FEET UPSTREAM OF LOWER STUDY LIMIT
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
FLOOD PROFILES
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO
DRY HOLLOW
SHEET 9 OF 37



U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FLOOD PROFILES
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

DRY HOLLOW
SHEET 10 OF 37

LEGEND

500 YEAR FLOOD

100 YEAR FLOOD

50 YEAR FLOOD

10 YEAR FLOOD

STREAM BED

ELEVATION IN FEET (M.S.L.)

5490

5480

5470

5460

5450

5440

518 Colorado River (Lower Study Limit)

519

520

521 County Road 311

522

523

524

525

526

Min. Road & Low Chord

0+00

8+00

16+00

24+00

32+00

40+00

FEET UPSTREAM OF LOWER STUDY LIMIT

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FLOOD PROFILES
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

DIVIDE CREEK
SHEET 11 OF 37

LEGEND

500 YEAR FLOOD

100 YEAR FLOOD

50 YEAR FLOOD

10 YEAR FLOOD

STREAM BED

ELEVATION IN FEET (M.S.L.)

5530

5520

5510

5500

5490

530

529

528

527

526

44+00

52+00

60+00

68+00

76+00

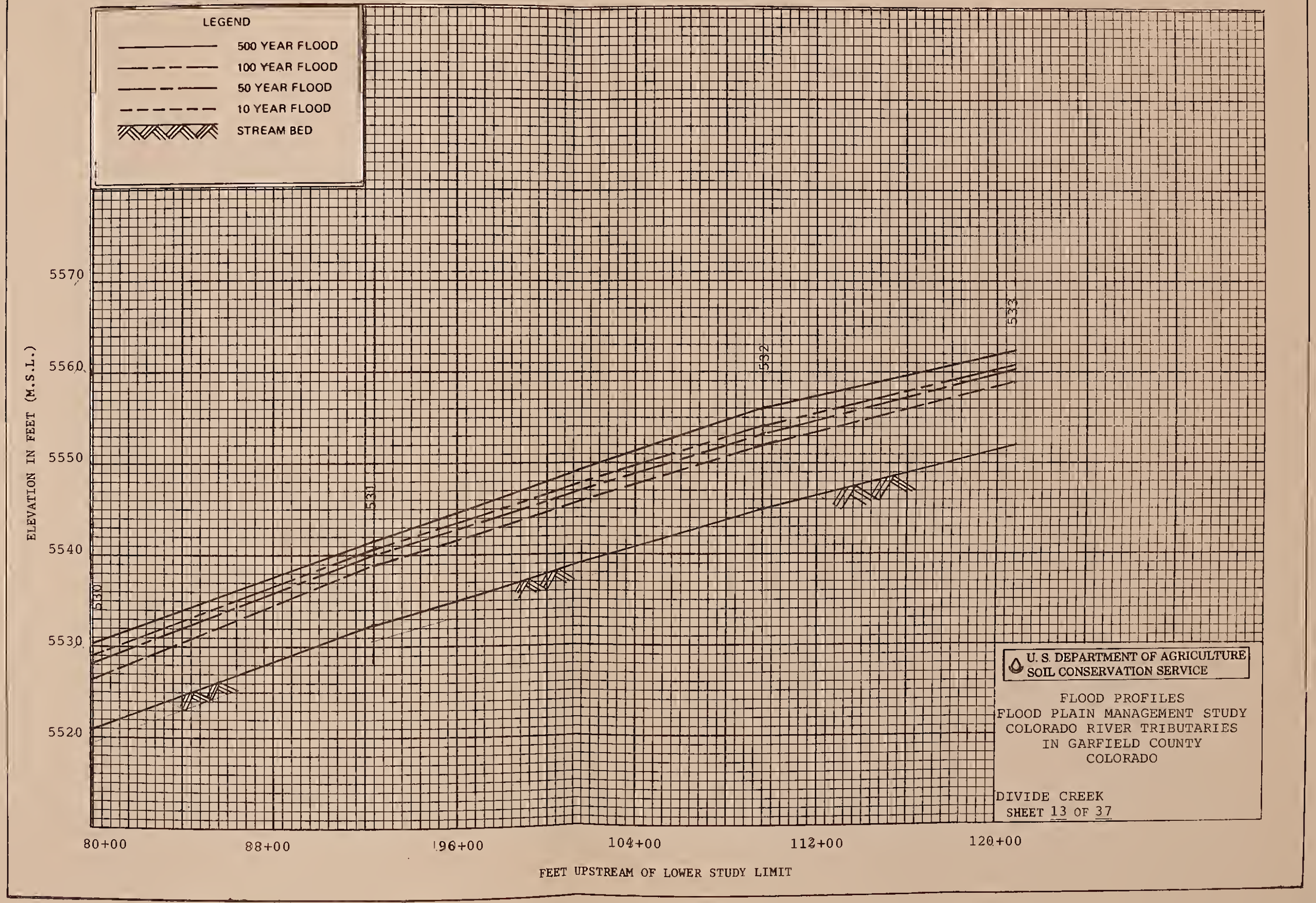
84+00

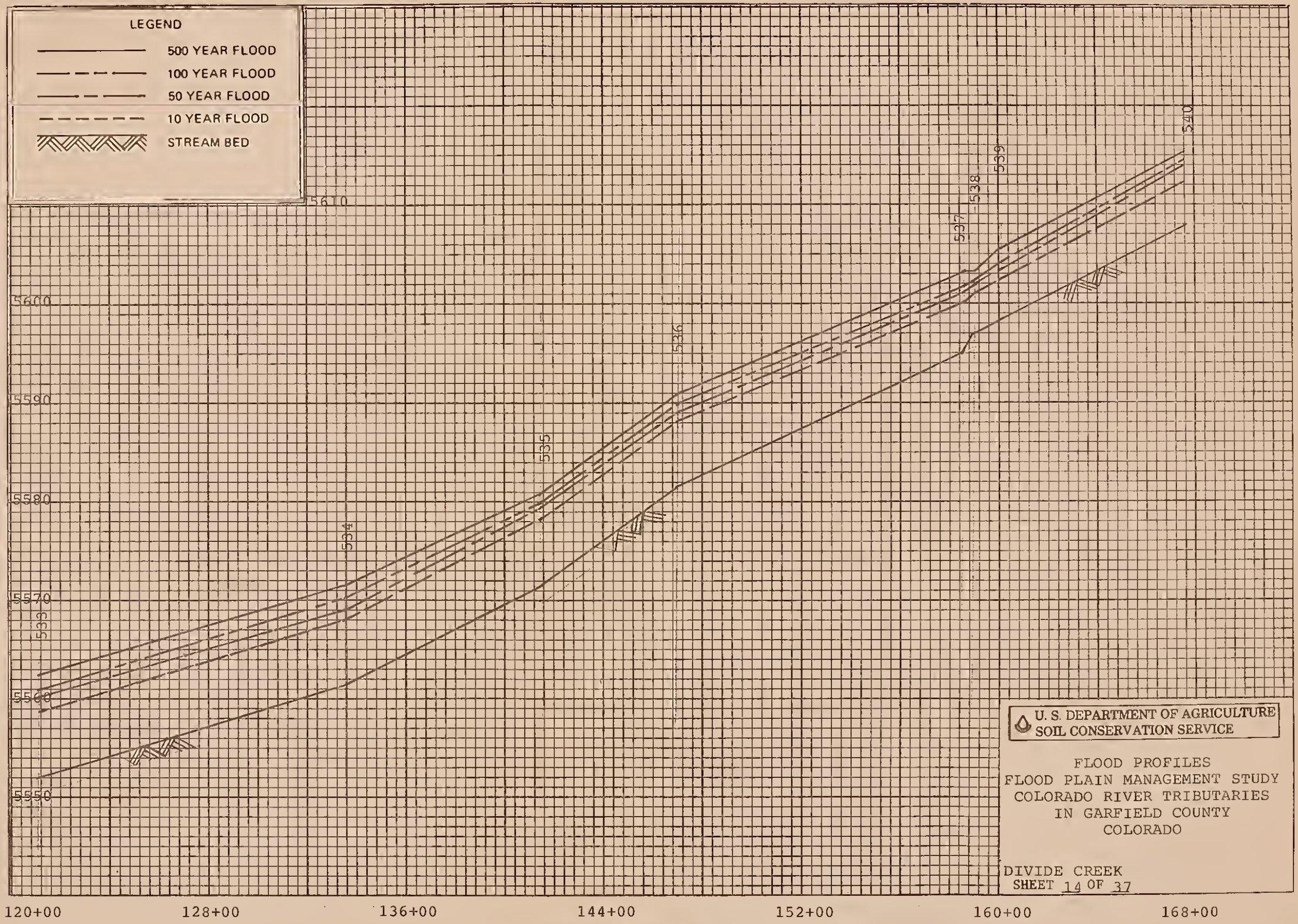
FEET UPSTREAM OF LOWER STUDY LIMIT

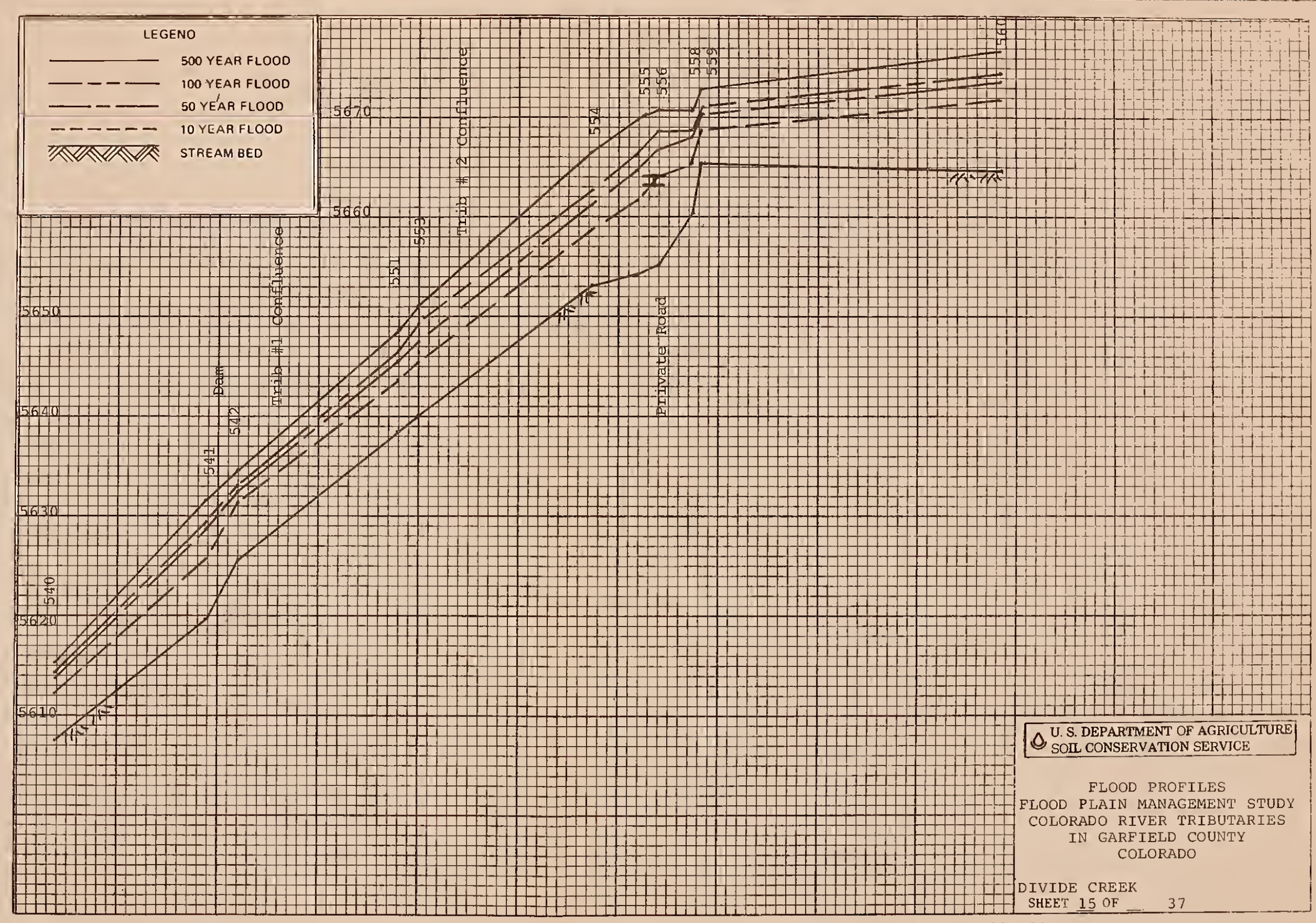
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FLOOD PROFILES
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

DIVIDE CREEK
SHEET 12 OF 37


LEGEND
500 YEAR FLOOD
100 YEAR FLOOD
50 YEAR FLOOD
10 YEAR FLOOD
STREAM BED
ELEVATION IN FEET (M.S.L.)
5570
5560
5550
5540
5530
5520
530
531
532
533
80+00
88+00
96+00
104+00
112+00
120+00
FEET UPSTREAM OF LOWER STUDY LIMIT
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
FLOOD PROFILES
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO
DIVIDE CREEK
SHEET 13 OF 37


LEGEND
500 YEAR FLOOD
100 YEAR FLOOD
50 YEAR FLOOD
10 YEAR FLOOD
STREAM BED
ELEVATION IN FEET (M.S.L.)
5610
5600
5590
5580
5570
5560
5550
534
535
536
537
538
539
540
533
120+00
128+00
136+00
144+00
152+00
160+00
168+00
FEET UPSTREAM OF LOWER STUDY LIMIT
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
FLOOD PROFILES
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO
DIVIDE CREEK
SHEET 14 OF 37


LEGEND
500 YEAR FLOOD
100 YEAR FLOOD
50 YEAR FLOOD
10 YEAR FLOOD
STREAM BED
ELEVATION IN FEET (M.S.L.)
5670
5660
5650
5640
5630
5620
5610
Trib #2 Confluence
Trib #1 Confluence
Dam
Private Road
540
541
542
551
553
554
555
556
558
559
560
166+00
174+00
182+00
190+00
198+00
206+00
FEET UPSTREAM OF LOWER STUDY LIMIT
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
FLOOD PROFILES
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO
DIVIDE CREEK
SHEET 15 OF 37

LEGEND

500 YEAR FLOOD

100 YEAR FLOOD

50 YEAR FLOOD

10 YEAR FLOOD

STREAM BED

ELEVATION IN FEET (M.S.L.)

5680

5670

5660

560

561 (Upper Study Limit)

204+00

212+00

220+00

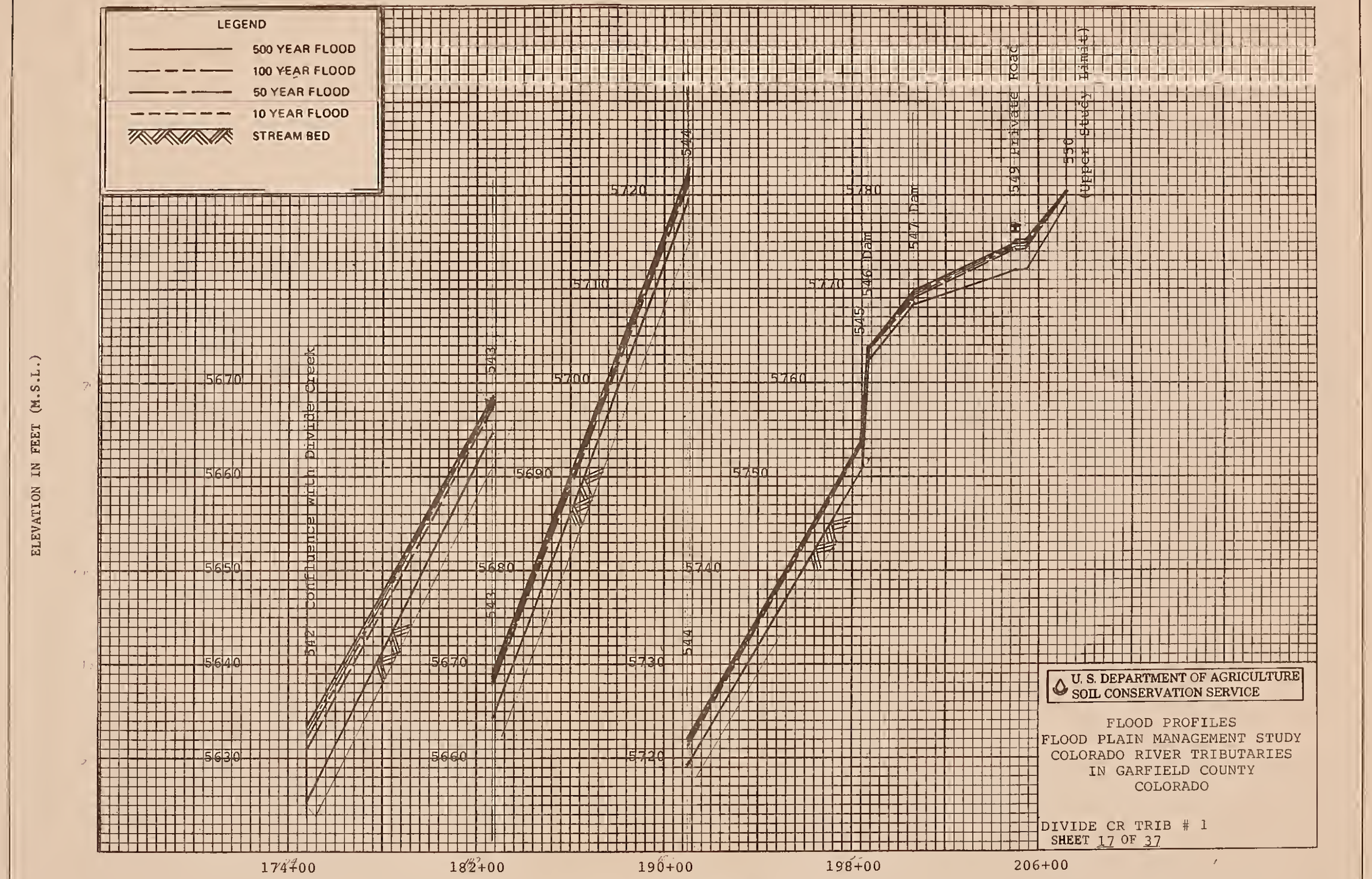
228+00

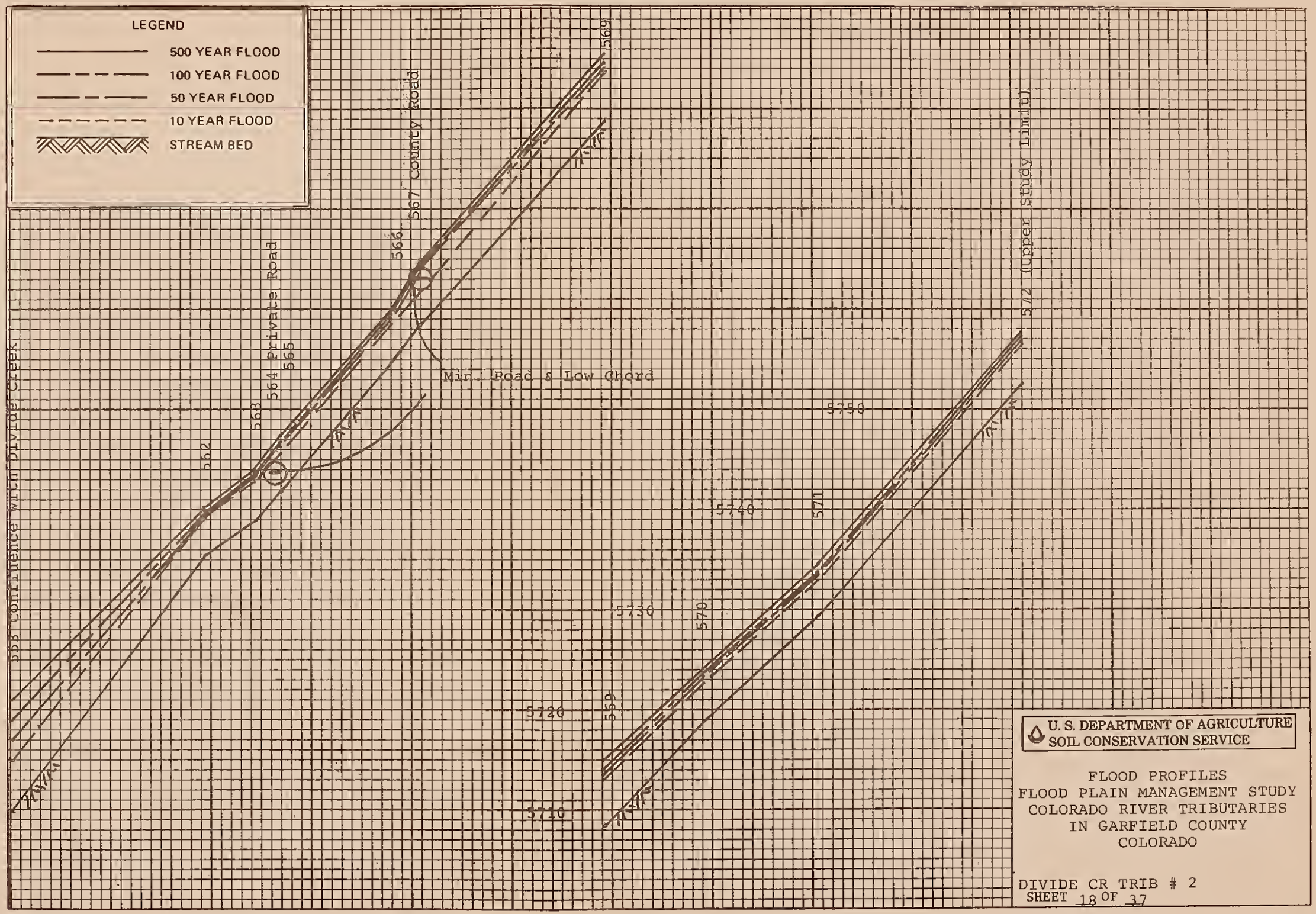
FEET UPSTREAM OF LOWER STUDY LIMIT

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FLOOD PROFILES
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

DIVIDE CREEK
SHEET 16 OF 37

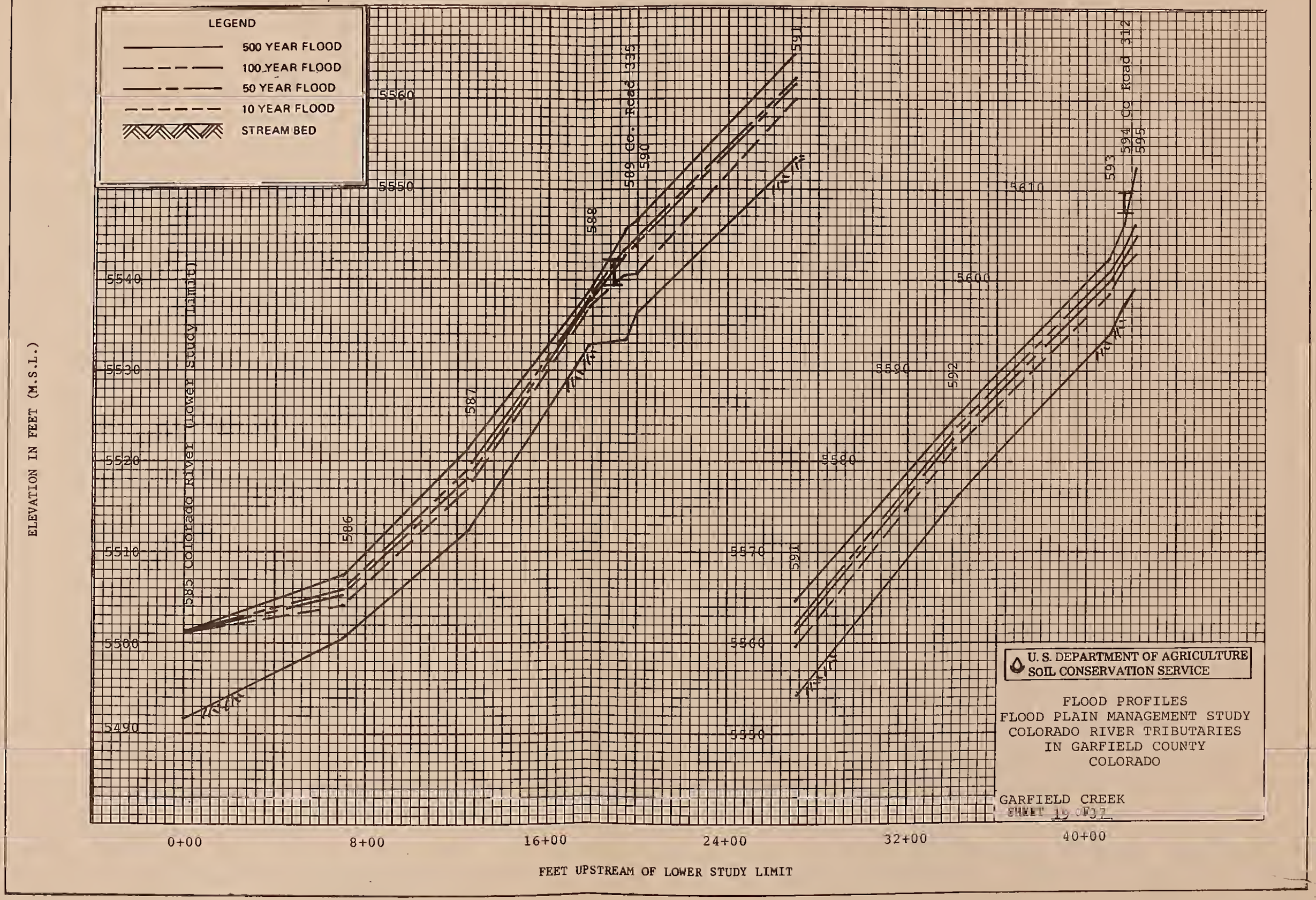

LEGEND
500 YEAR FLOOD
100 YEAR FLOOD
50 YEAR FLOOD
10 YEAR FLOOD
STREAM BED
ELEVATION IN FEET (M.S.L.)
5670
5660
5650
5640
5630
5700
5690
5680
5670
5660
5720
5710
5760
5750
5740
5730
5720
5780
5770
543
542 Confluence with Divide Creek
543
544
545
546 Dam
547 Dam
548
549 Private Road
550
(Upper Study Limit)
174+00
182+00
190+00
198+00
206+00
FEET UPSTREAM OF LOWER STUDY LIMIT
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
FLOOD PROFILES
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO
DIVIDE CR TRIB # 1
SHEET 17 OF 37



U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FLOOD PROFILES
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

DIVIDE CR TRIB # 2
SHEET 18 OF 37



U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FLOOD PROFILES
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

GARFIELD CREEK

SHEET 19 OF 37

LEGEND

500 YEAR FLOOD

100 YEAR FLOOD

50 YEAR FLOOD

10 YEAR FLOOD

STREAM BED

ELEVATION IN FEET (M.S.L.)

5660
5650
5640
5630
5620
5610
5600

5670

595
596
597
598
599
600
601
602
603

Private Road

5670
5680
5690
5700
5710

42+00
50+00
58+00
66+00
74+00
82+00
90+00

FEET UPSTREAM OF LOWER STUDY LIMIT

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FLOOD PROFILES
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

GARFIELD CREEK
SHEET 20 OF 37

LEGEND

500 YEAR FLOOD

100 YEAR FLOOD

50 YEAR FLOOD

10 YEAR FLOOD

STREAM BED

ELEVATION IN FEET (M.S.L.)

5740

5730

5720

5710

5700

609

605 (Upper Study Limit)

603

90+00

98+00

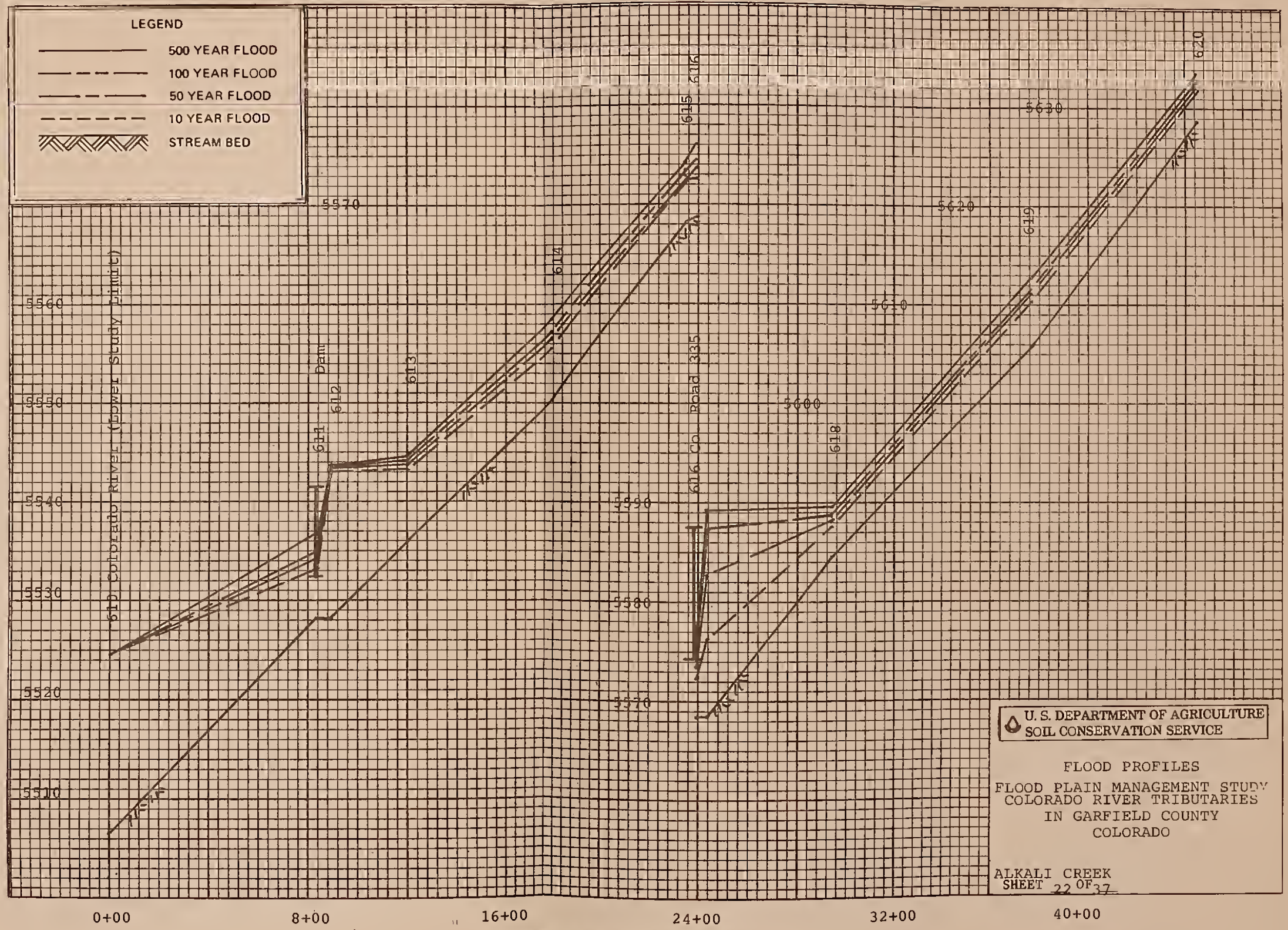
106+00

FEET UPSTREAM OF LOWER STUDY LIMIT

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FLOOD PROFILES
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

GARFIELD CREEK
SHEET 21 OF 37


LEGEND
500 YEAR FLOOD
100 YEAR FLOOD
50 YEAR FLOOD
10 YEAR FLOOD
STREAM BED
ELEVATION IN FEET (M.S.L.)
5570
5560
5550
5540
5530
5520
5510
Colorado River (Lower Study Limit)
611
612
613
614
615
616
617
Dam
616
Co. Road 335
618
619
620
5600
5590
5580
5570
5610
5620
5630
0+00
8+00
16+00
24+00
32+00
40+00
FEET UPSTREAM OF LOWER STUDY LIMIT
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
FLOOD PROFILES
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO
ALKALI CREEK
SHEET 22 OF 37

LEGEND

500 YEAR FLOOD

100 YEAR FLOOD

50 YEAR FLOOD

10 YEAR FLOOD

STREAM BED

ELEVATION IN FEET (M.S.L.)

5690 5680 5670 5660 5650 5640 5630

5700 5710 5720 5730 5740 5750 5760 5770 5780

621 622 623 624 625 626 627 628 629

Log Road 514

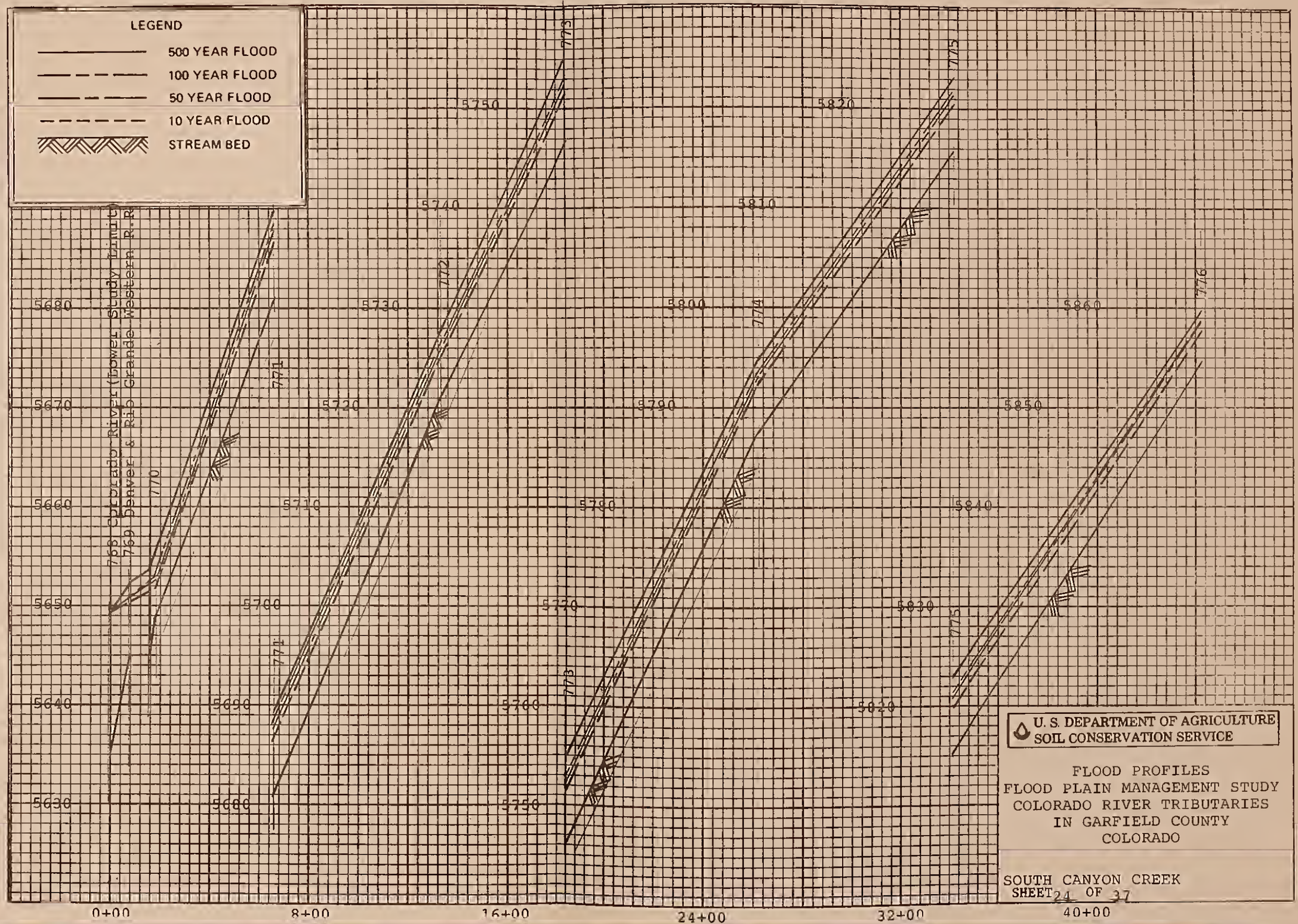
FEET UPSTREAM OF LOWER STUDY LIMIT

44+00 52+00 60+00 68+00 76+00 84+00 92+00

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FLOOD PROFILES
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

ALKALI CREEK
SHEET 23 OF 37


LEGEND
500 YEAR FLOOD
100 YEAR FLOOD
50 YEAR FLOOD
10 YEAR FLOOD
STREAM BED
ELEVATION IN FEET (M.S.L.)
Colorado River (Lower Study Limit)
Denver & Rio Grande Western R.R.
768
769
770
771
772
773
774
775
776
5650
5660
5670
5680
5690
5700
5710
5720
5730
5740
5750
5760
5770
5780
5790
5800
5810
5820
5830
5840
5850
5860
5870
0+00
8+00
16+00
24+00
32+00
40+00
FEET UPSTREAM OF LOWER STUDY LIMIT
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
FLOOD PROFILES
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO
SOUTH CANYON CREEK
SHEET 24 OF 37

LEGEND

500 YEAR FLOOD

100 YEAR FLOOD

50 YEAR FLOOD

10 YEAR FLOOD

STREAM BED

ELEVATION IN FEET (M.S.L.)

5930 5910 5890 5870 5850 5990 5970 5950 5930 6000 5980 5960 5940 5920 6030 6010 6000 6020

776 777 778 779 780 781 782 783 784 785 786

Co. Road 134

44+00 52+00 60+00 68+00 76+00 84+00

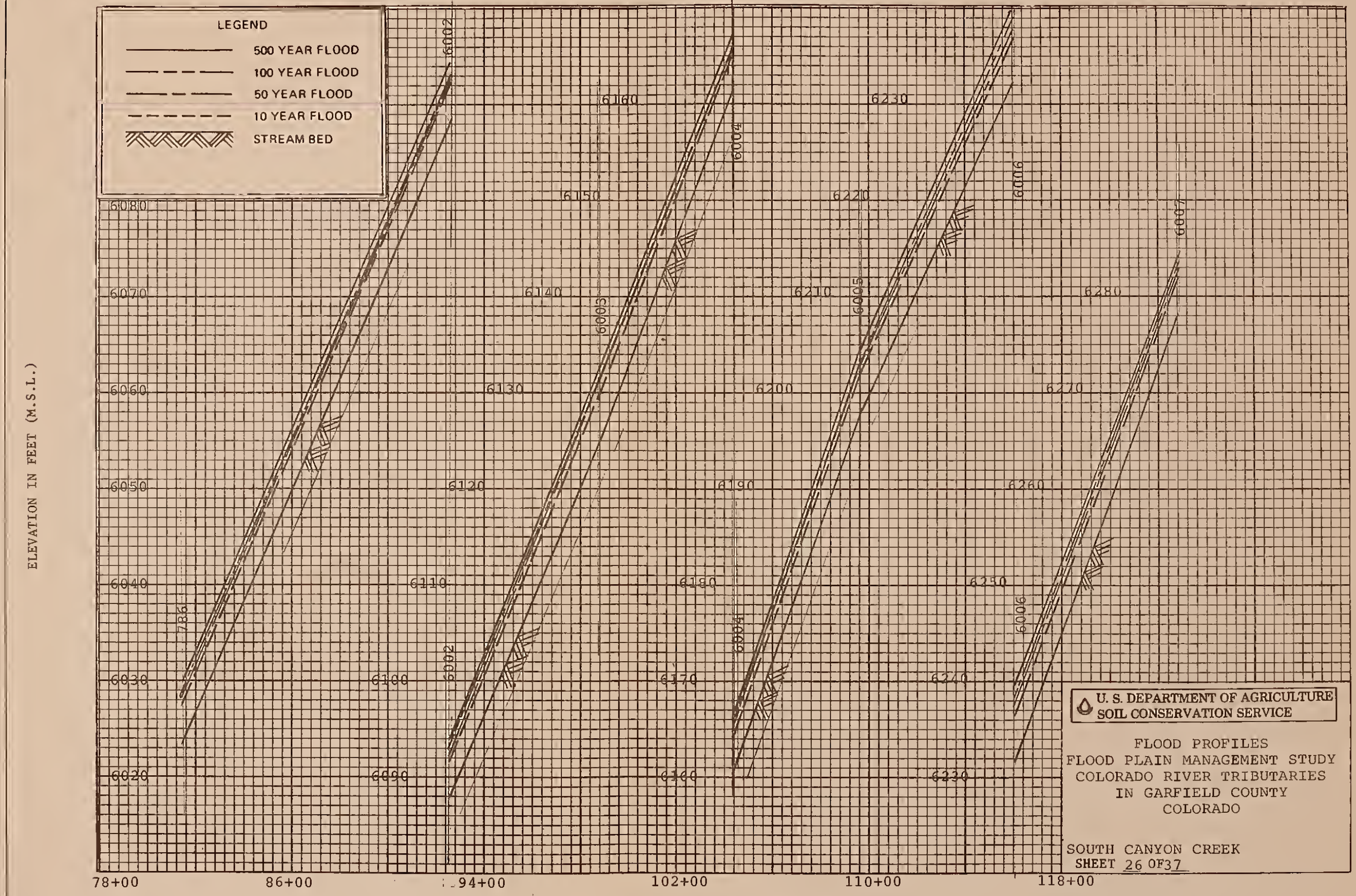
FEET UPSTREAM OF LOWER STUDY LIMIT

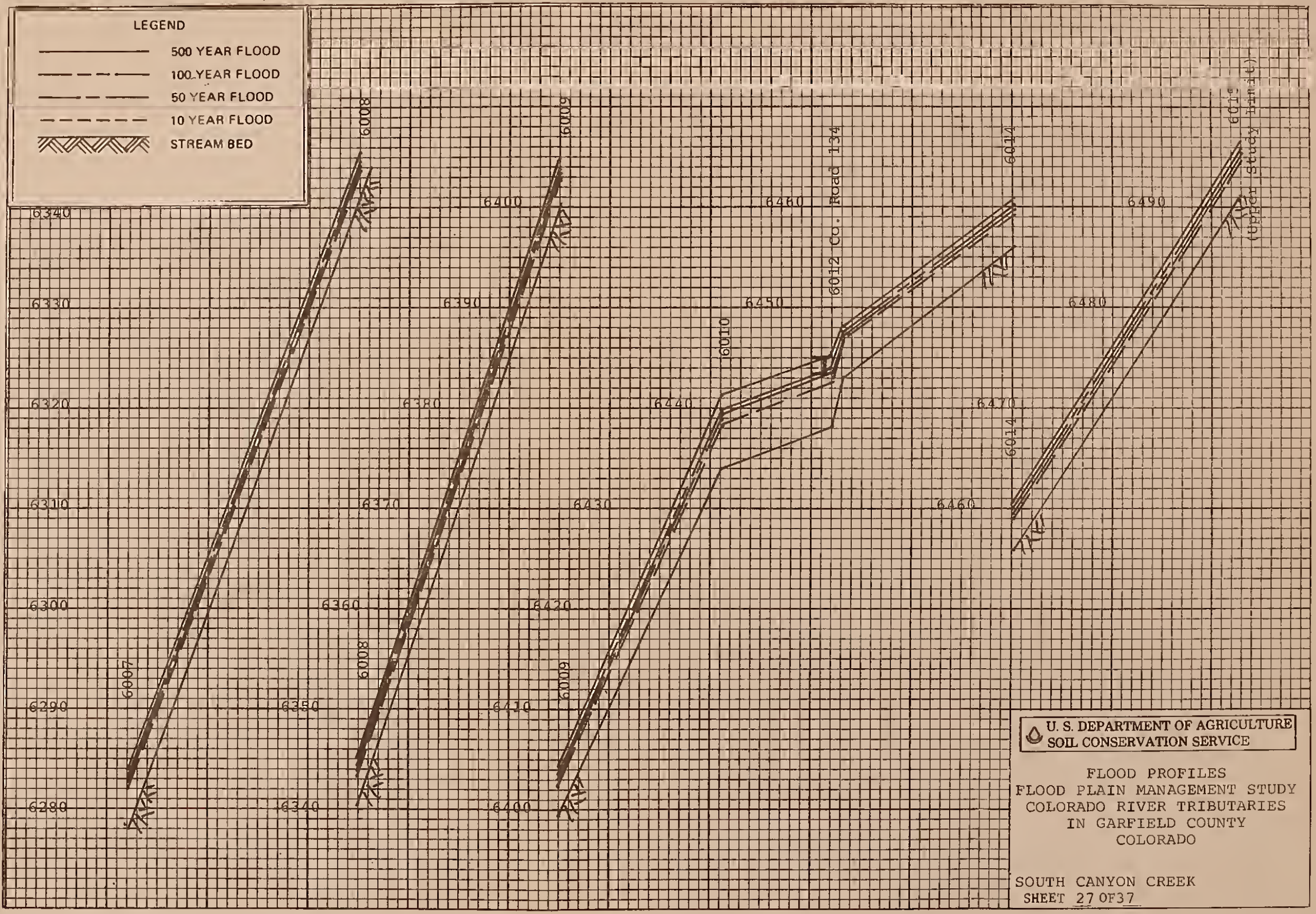
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FLOOD PROFILES
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

SOUTH CANYON CREEK

SHEET 25 OF 37

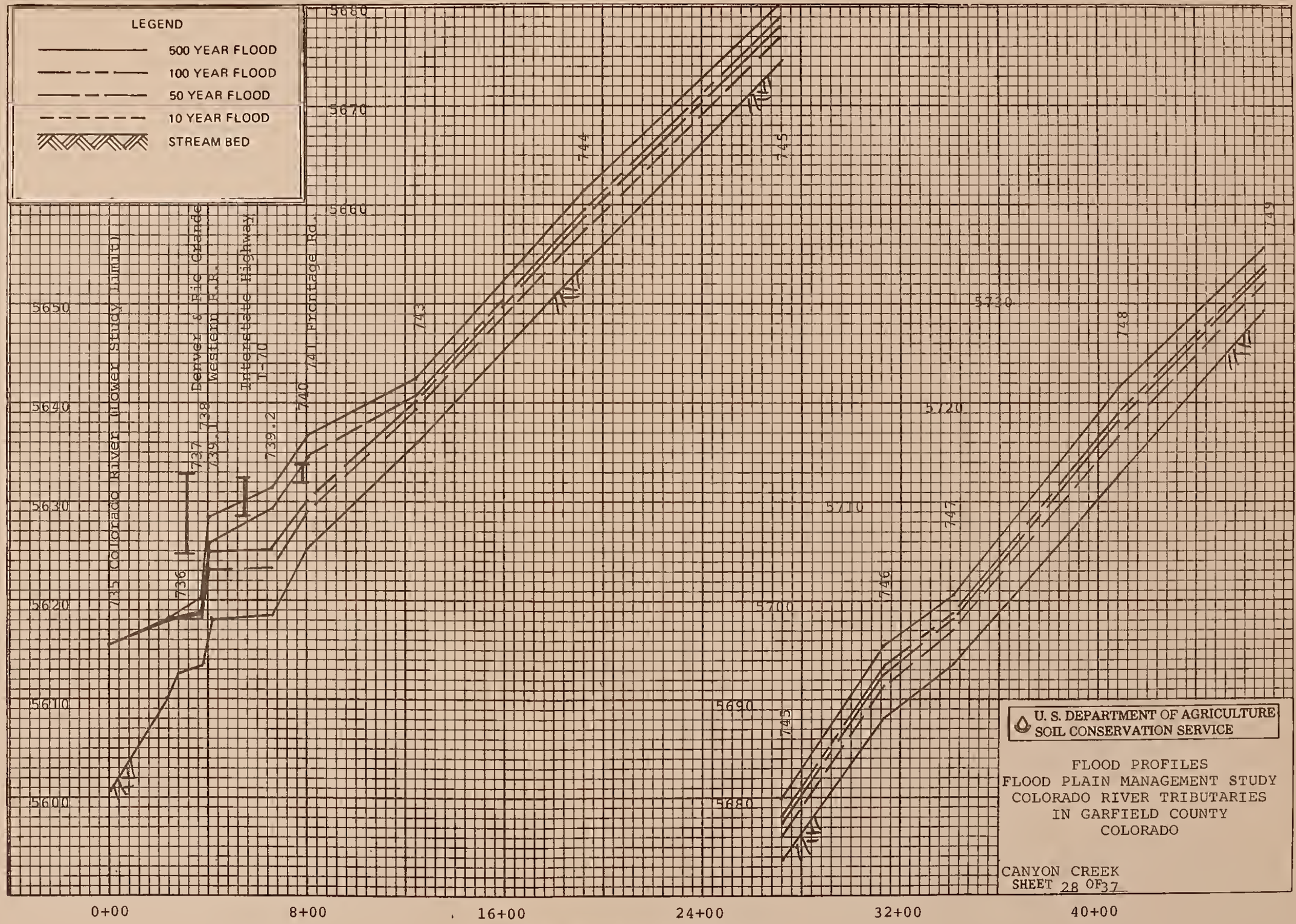

LEGEND
500 YEAR FLOOD
100 YEAR FLOOD
50 YEAR FLOOD
10 YEAR FLOOD
STREAM BED
ELEVATION IN FEET (M.S.L.)
6080
6070
6060
6050
6040
6030
6020
6160
6150
6140
6130
6120
6110
6100
6090
6230
6220
6210
6200
6190
6180
6170
6160
6280
6270
6260
6250
6240
6230
6002
6003
6004
6005
6006
6007
6008
6009
786
78+00
86+00
94+00
102+00
110+00
118+00
FEET UPSTREAM OF LOWER STUDY LIMIT
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
FLOOD PROFILES
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO
SOUTH CANYON CREEK
SHEET 26 OF 37



U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FLOOD PROFILES
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

SOUTH CANYON CREEK
SHEET 27 OF 37


LEGEND
500 YEAR FLOOD
100 YEAR FLOOD
50 YEAR FLOOD
10 YEAR FLOOD
STREAM BED
ELEVATION IN FEET (M.S.L.)
5680
5670
5660
5650
5640
5630
5620
5610
5600
5730
5720
5710
5700
5690
5680
Lower Study Limit
737
738
739
739.2
740
741
Denver & Rio Grande Western R.R.
Interstate Highway I-70
Frontage Rd.
735 Colorado River
736
743
744
745
748
749
747
746
745
0+00
8+00
16+00
24+00
32+00
40+00
FEET UPSTREAM OF LOWER STUDY LIMIT
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
FLOOD PROFILES
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO
CANYON CREEK
SHEET 28 OF 37

LEGEND

500 YEAR FLOOD

100 YEAR FLOOD

50 YEAR FLOOD

10 YEAR FLOOD

STREAM BED

ELEVATION IN FEET (M.S.L.)

5790

5780

5770

5760

5750

5740

5730

750

751

(Upper Study Limit)

46+00

54+00

62+00

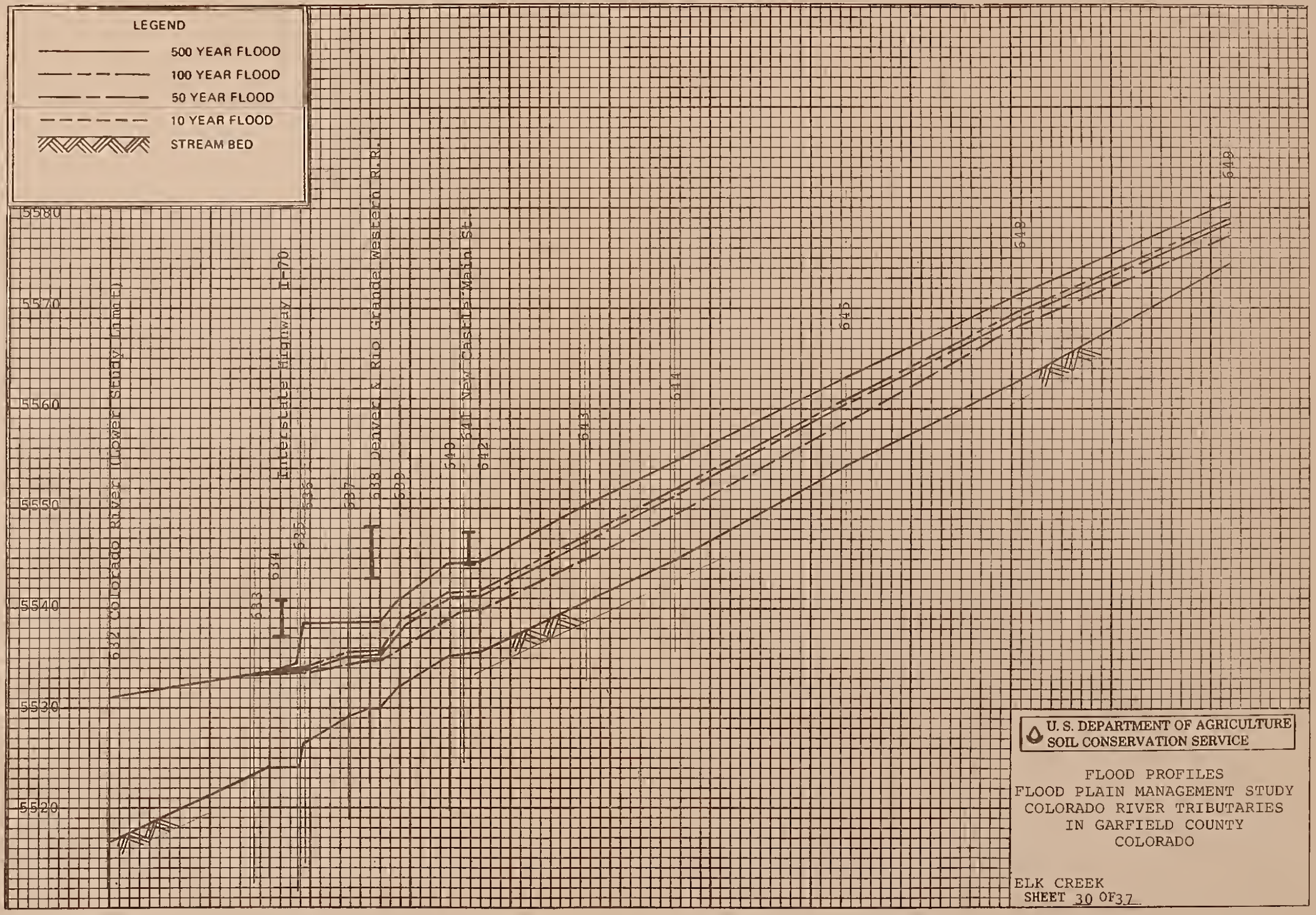
70+00

FEET UPSTREAM OF LOWER STUDY LIMIT

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FLOOD PROFILES
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

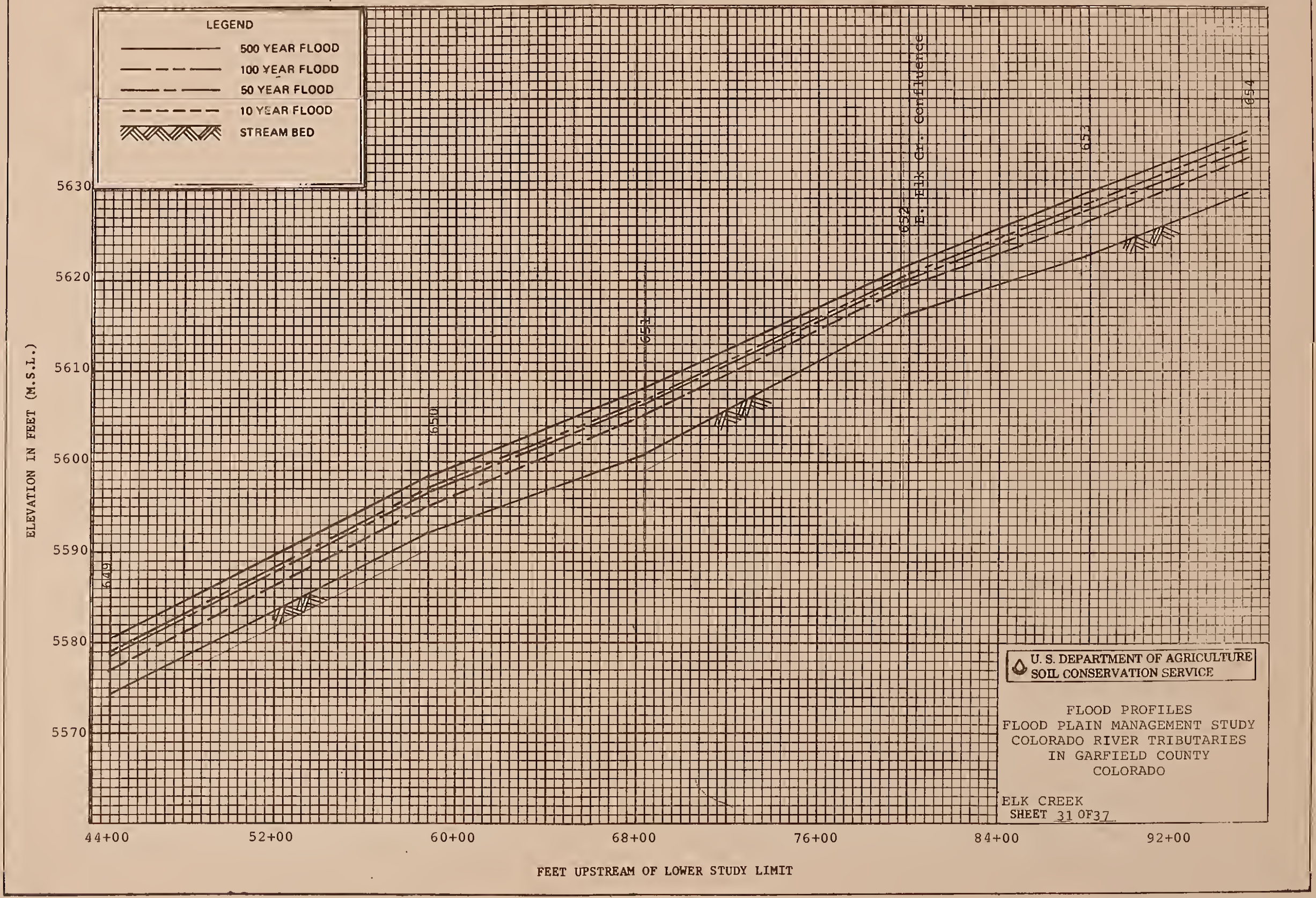
CANYON CREEK
SHEET 29 OF 37



U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FLOOD PROFILES
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

ELK CREEK
SHEET 30 OF 37



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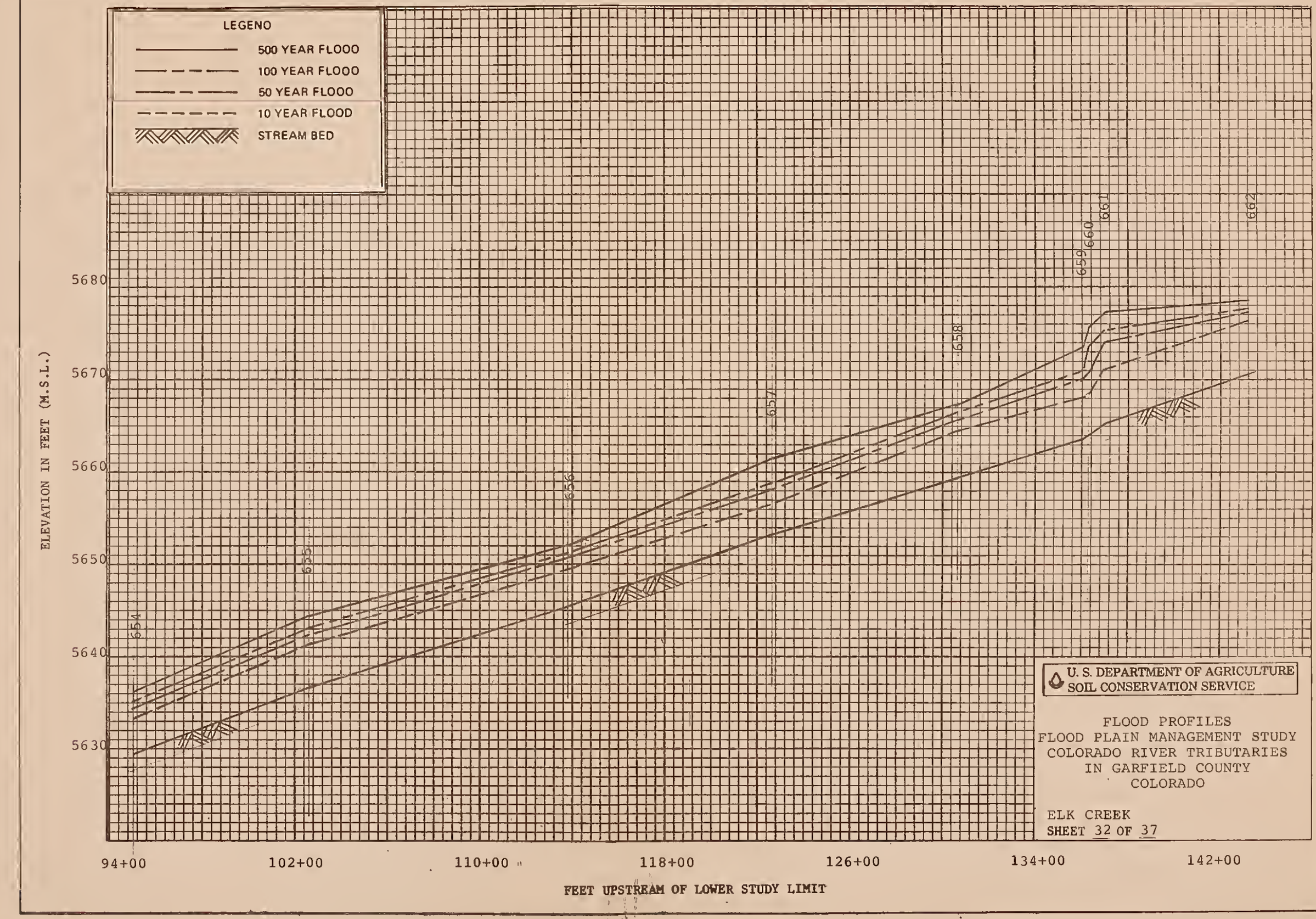
SOIL CONSERVATION SERVICE

FLOOD PROFILES
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

ELK CREEK
SHEET 31 OF 37


LEGENO
500 YEAR FLOOO
100 YEAR FLOOO
50 YEAR FLOOO
10 YEAR FLOOD
STREAM BED
ELEVATION IN FEET (M.S.L.)
5680
5670
5660
5650
5640
5630
654
655
656
657
658
659
660
661
662
94+00
102+00
110+00
118+00
126+00
134+00
142+00
FEET UPSTREAM OF LOWER STUDY LIMIT
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
FLOOD PROFILES
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO
ELK CREEK
SHEET 32 OF 37

LEGEND

500 YEAR FLOOD

100 YEAR FLOOD

50 YEAR FLOOD

10 YEAR FLOOD

STREAM BED

ELEVATION IN FEET (M.S.L.)

5720

5710

5700

5690

5680

5670

662

663

664

665

666

667

668

669

142+00

150+00

158+00

166+00

174+00

182+00

190+00

FEET UPSTREAM OF LOWER STUDY LIMIT

U. S. DEPARTMENT OF AGRICULTURE
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FLOOD PROFILES
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

ELK CREEK
SHEET 33 OF 37

LEGEND

500 YEAR FLOOD

100 YEAR FLOOD

50 YEAR FLOOD

10 YEAR FLOOD

STREAM BED

ELEVATION IN FEET (M.S.L.)

5130

5120

5110

669

679

(Upper Study Limit)

190+00

198+00

206+00

FEET UPSTREAM OF LOWER STUDY LIMIT

U. S. DEPARTMENT OF AGRICULTURE
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FLOOD PROFILES
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

ELK CREEK
SHEET 34 OF 37

LEGEND

500 YEAR FLOOD

100 YEAR FLOOD

50 YEAR FLOOD

10 YEAR FLOOD

STREAM BED

ELEVATION IN FEET (M.S.L.)

5670
5660
5650
5640
5630
5620
5610

652 Main Elk Creek

Min. Road & Low Chord

671 673 672 Private Road

674

675

676 678 Peet Bridge

3700

679

680 681 682 Buford Road

3690

5680

678

5670

5660

FEET UPSTREAM OF LOWER STUDY LIMIT

78+00 86+00 94+00 102+00 110+00 118+00 126+00

U. S. DEPARTMENT OF AGRICULTURE
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FLOOD PROFILES
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

EAST ELK CREEK
SHEET 35 OF 37

LEGEND

500 YEAR FLOOD

100 YEAR FLOOD

50 YEAR FLOOD

10 YEAR FLOOD

STREAM BED

ELEVATION IN FEET (M.S.L.)

5770
5760
5750
5740
5730
5720
5710
5700

686
685
684
683
682
Private Road
689
690
691
692
693
694 Dam
695
696 Private Road
687

5800
5790
5780
5770
5760

122+00
130+00
138+00
146+00
154+00
162+00
170+00

FEET UPSTREAM OF LOWER STUDY LIMIT

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FLOOD PROFILES
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

EAST ELK CREEK
SHEET 36 OF 37

LEGEND

500 YEAR FLOOD

100 YEAR FLOOD

50 YEAR FLOOD

10 YEAR FLOOD

STREAM BED

ELEVATION IN FEET (M.S.L.)

5840

5830

5820

5810

5800

685 697 698 699 Private Road 700 704

702 703 Private Road 704

705 (Upper Study Limit)

172+00

180+00

188+00

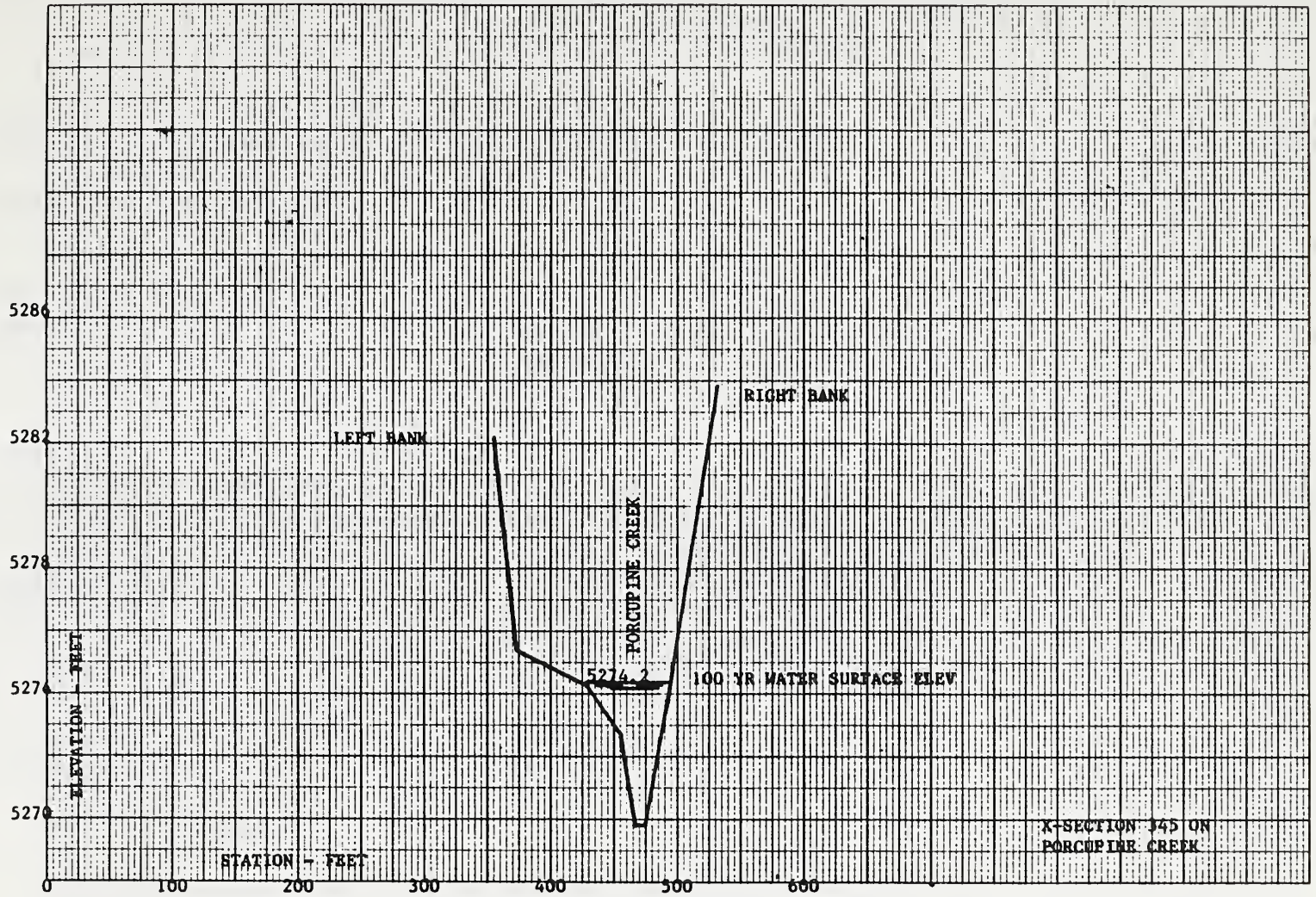
196+00

FEET UPSTREAM OF LOWER STUDY LIMIT

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FLOOD PROFILES
FLOOD PLAIN MANAGEMENT STUDY
COLORADO RIVER TRIBUTARIES
IN GARFIELD COUNTY
COLORADO

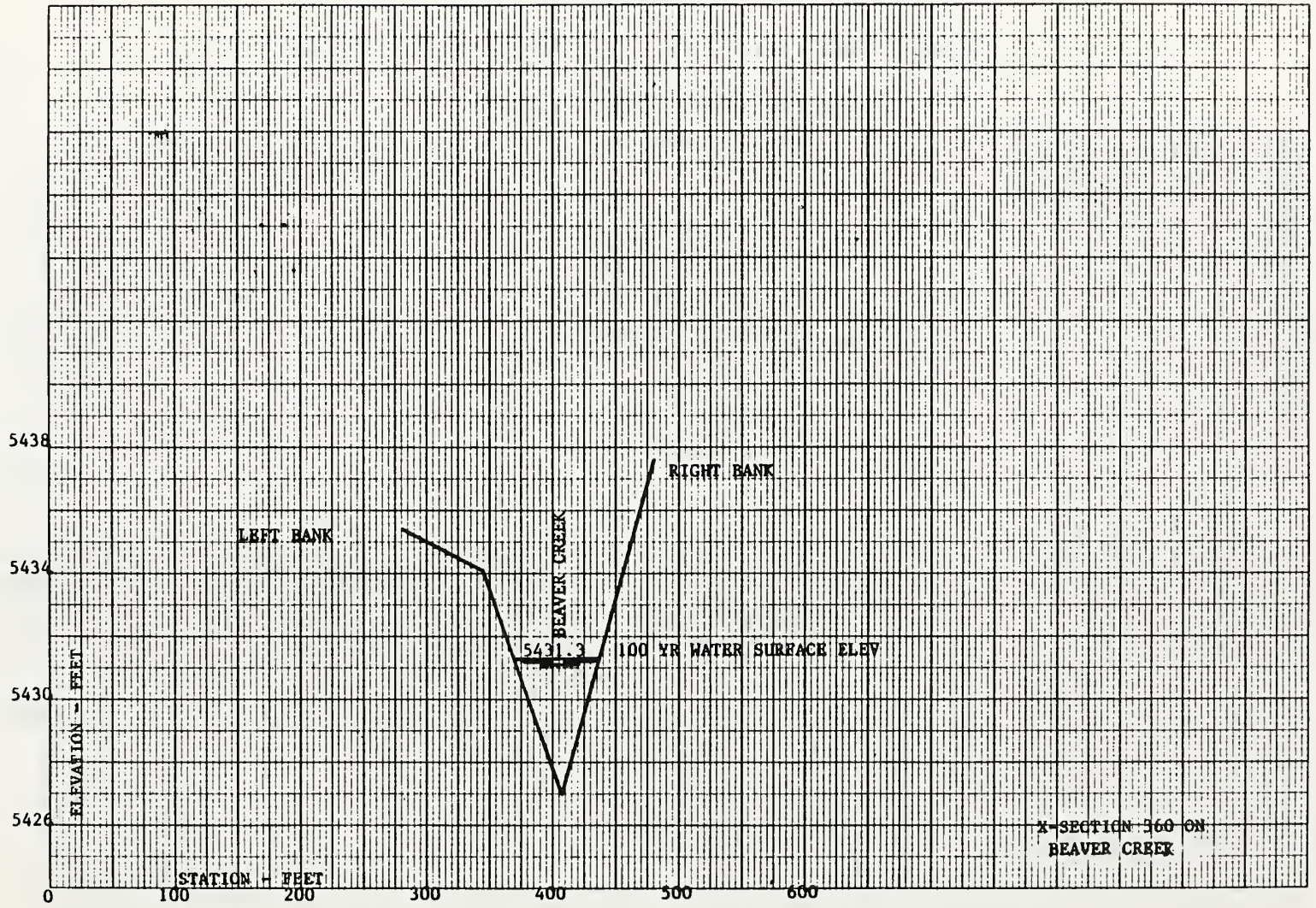
EAST ELK CREEK
SHEET 37 OF 37



TYPICAL VALLEY CROSS-SECTION

COLORADO RIVER TRIBUTARIES FLOOD PLAIN MANAGEMENT STUDY

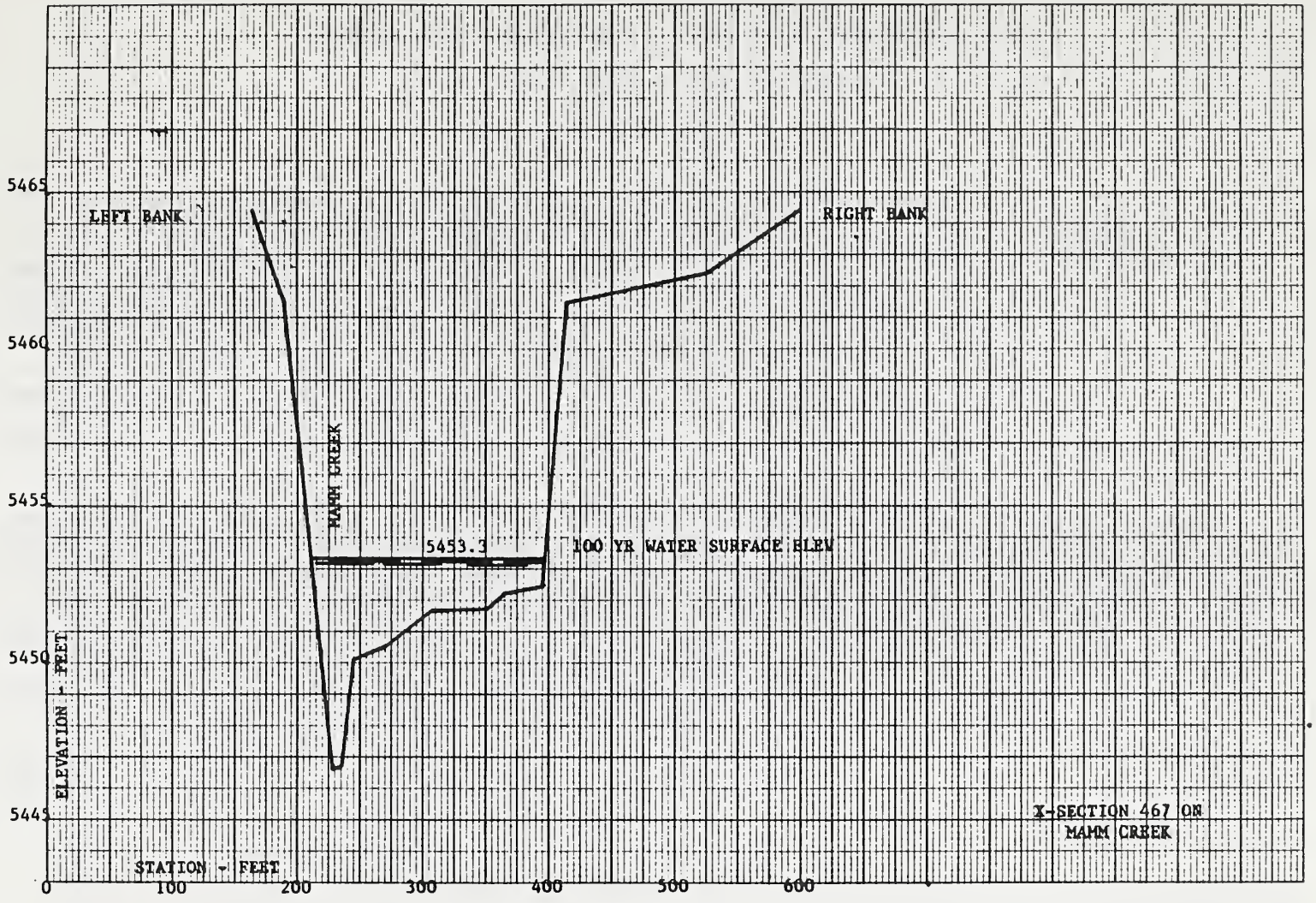
Figure 1



TYPICAL VALLEY CROSS-SECTION

COLORADO RIVER TRIBUTARIES FLOOD PLAIN MANAGEMENT STUDY

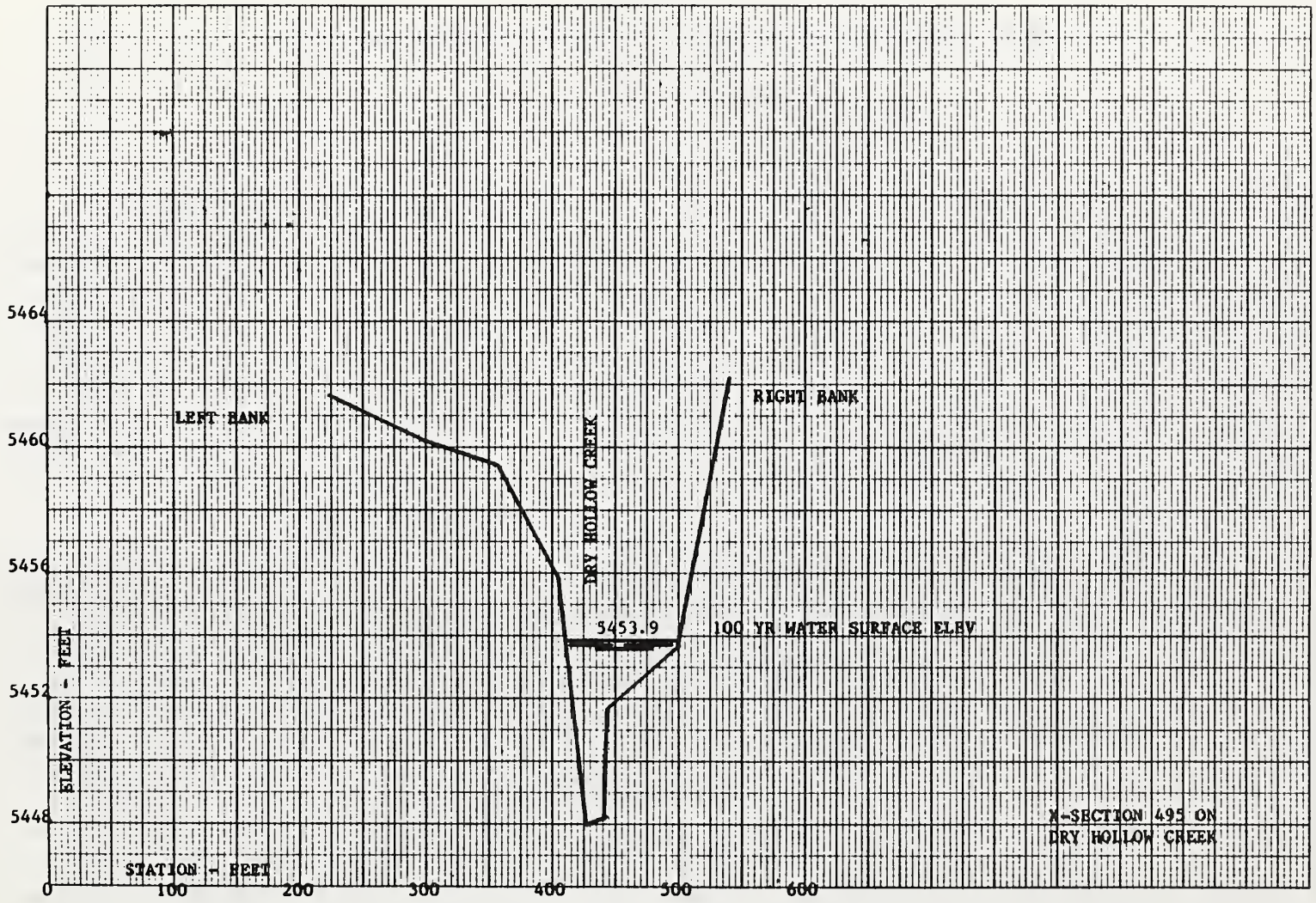
Figure 2



TYPICAL VALLEY CROSS-SECTION

COLORADO RIVER TRIBUTARIES FLOOD PLAIN MANAGEMENT STUDY

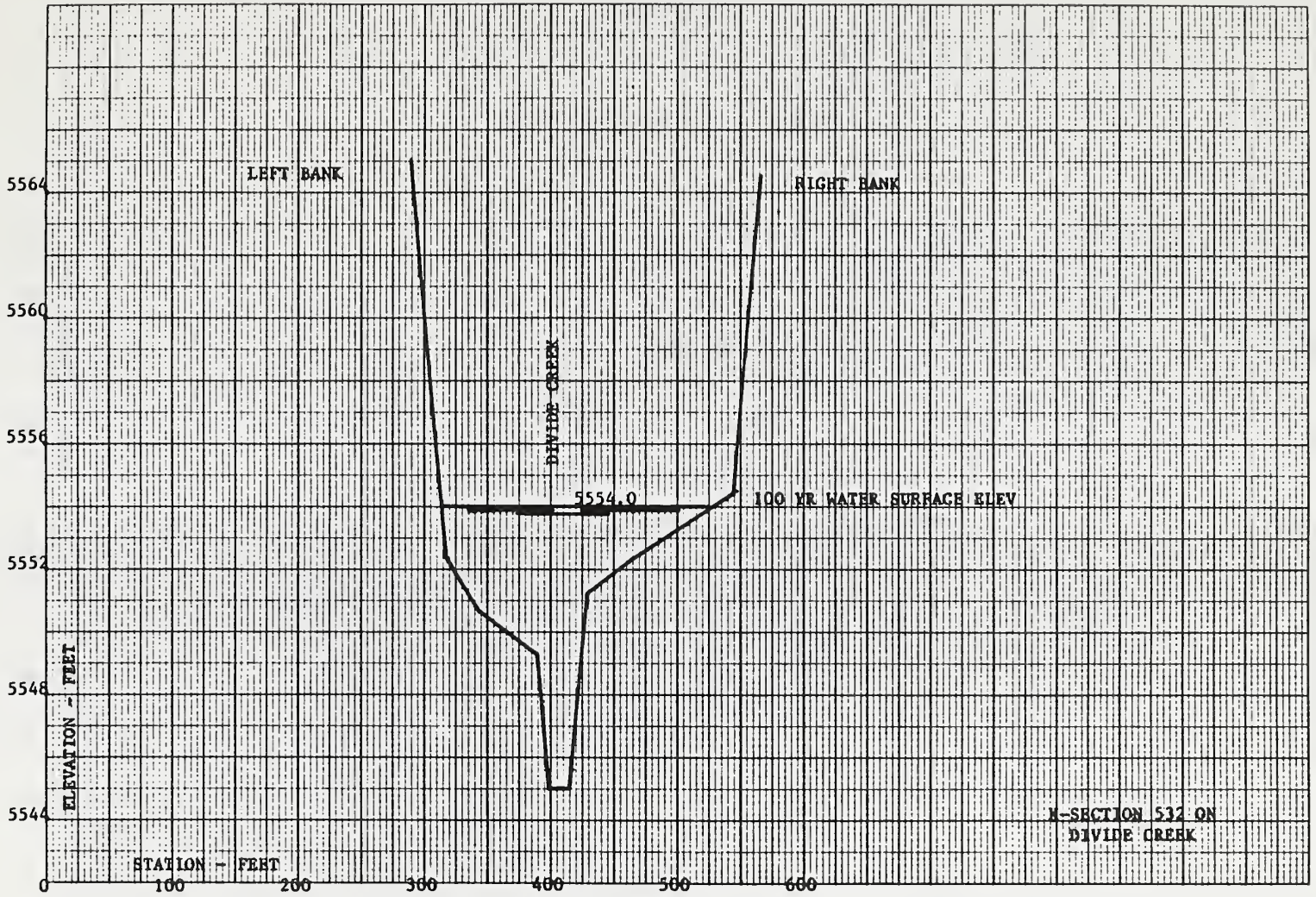
Figure 3



TYPICAL VÁLLEY CROSS-SECTION

COLORADO RIVER TRIBUTARIES FLOOD PLAIN MANAGEMENT STUDY

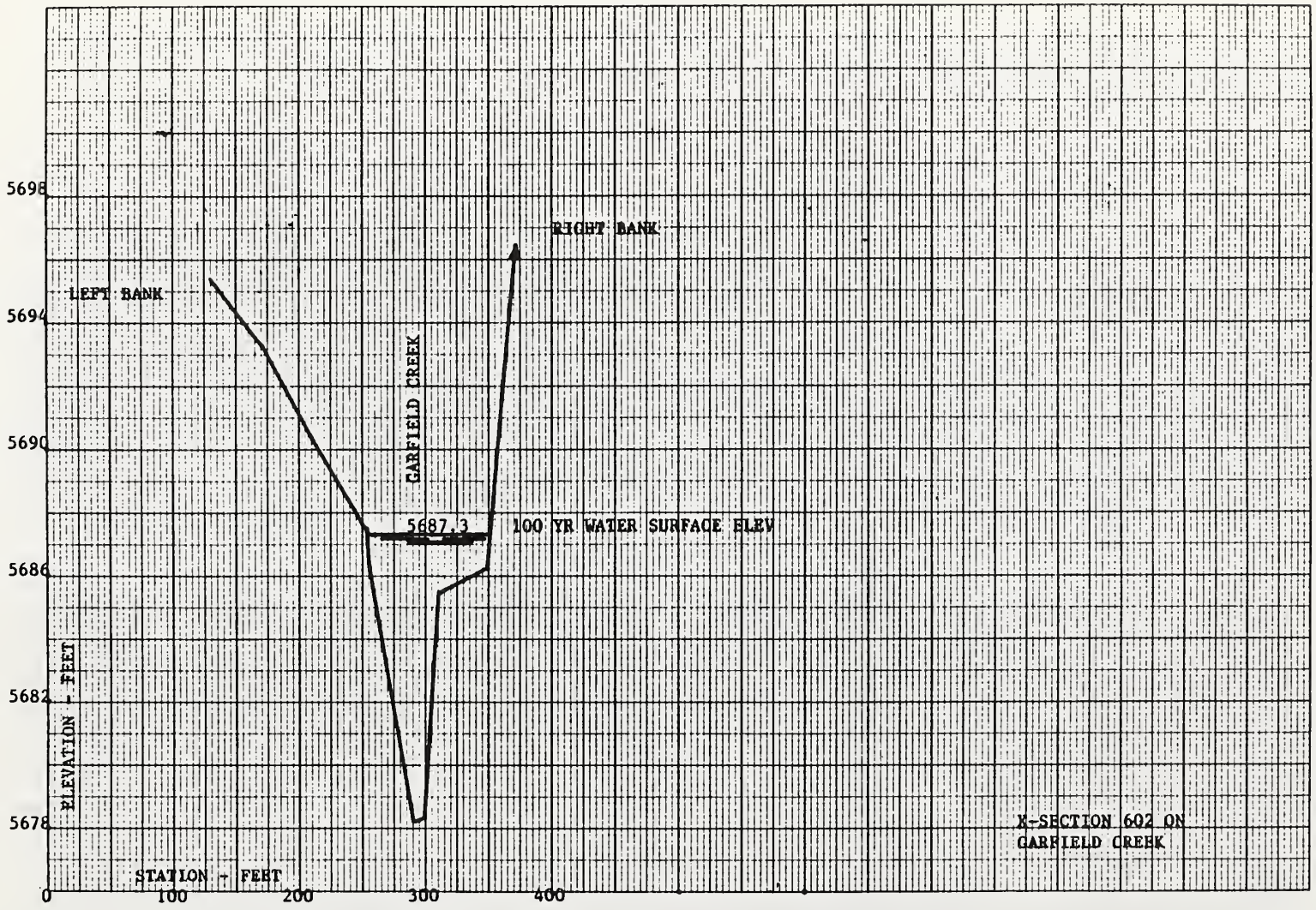
Figure 4



TYPICAL VALLEY CROSS-SECTION

COLORADO RIVER TRIBUTARIES FLOOD PLAIN MANAGEMENT STUDY

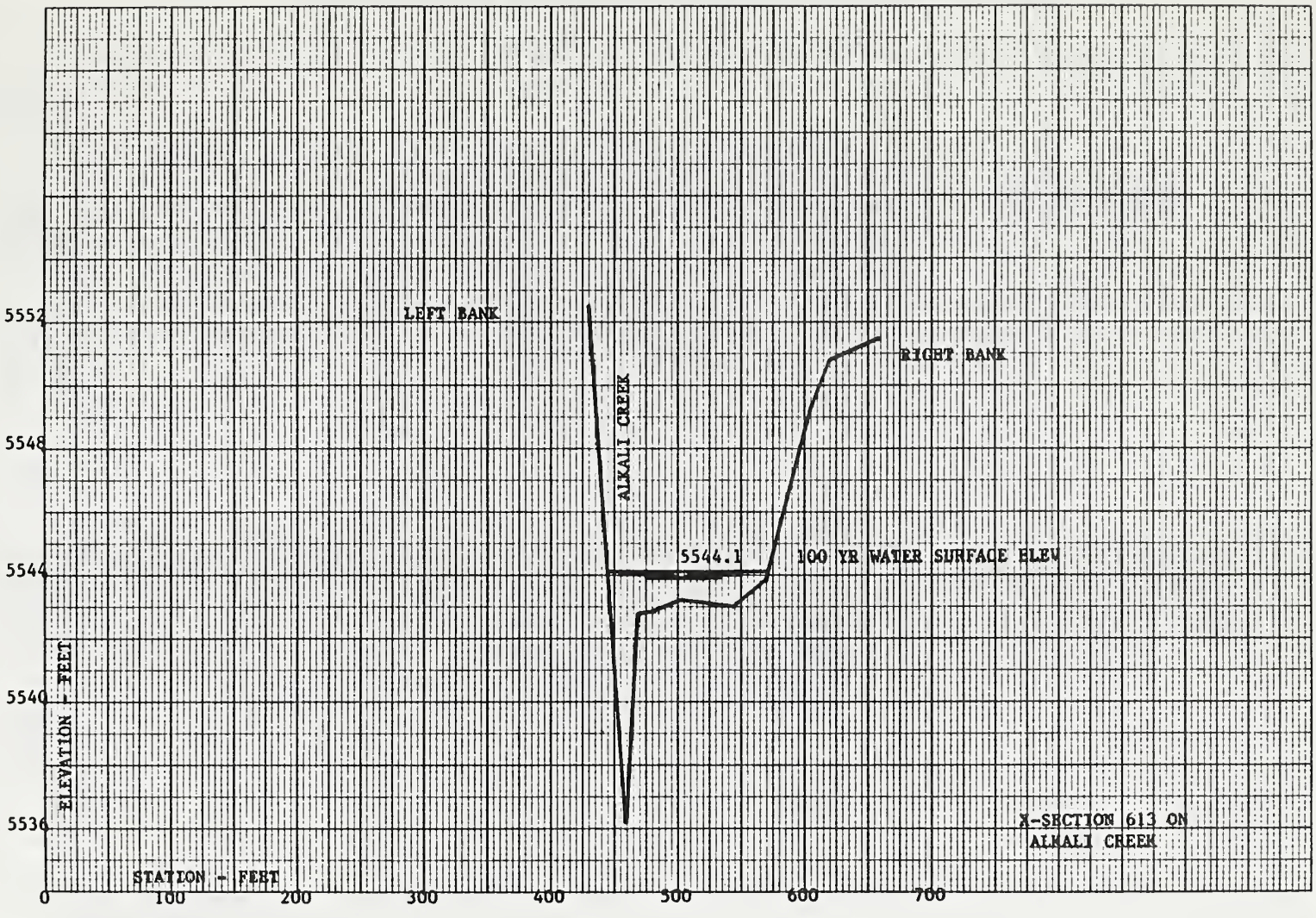
Figure 5



TYPICAL VALLEY CROSS-SECTION

COLORADO RIVER TRIBUTARIES FLOOD PLAIN MANAGEMENT STUDY

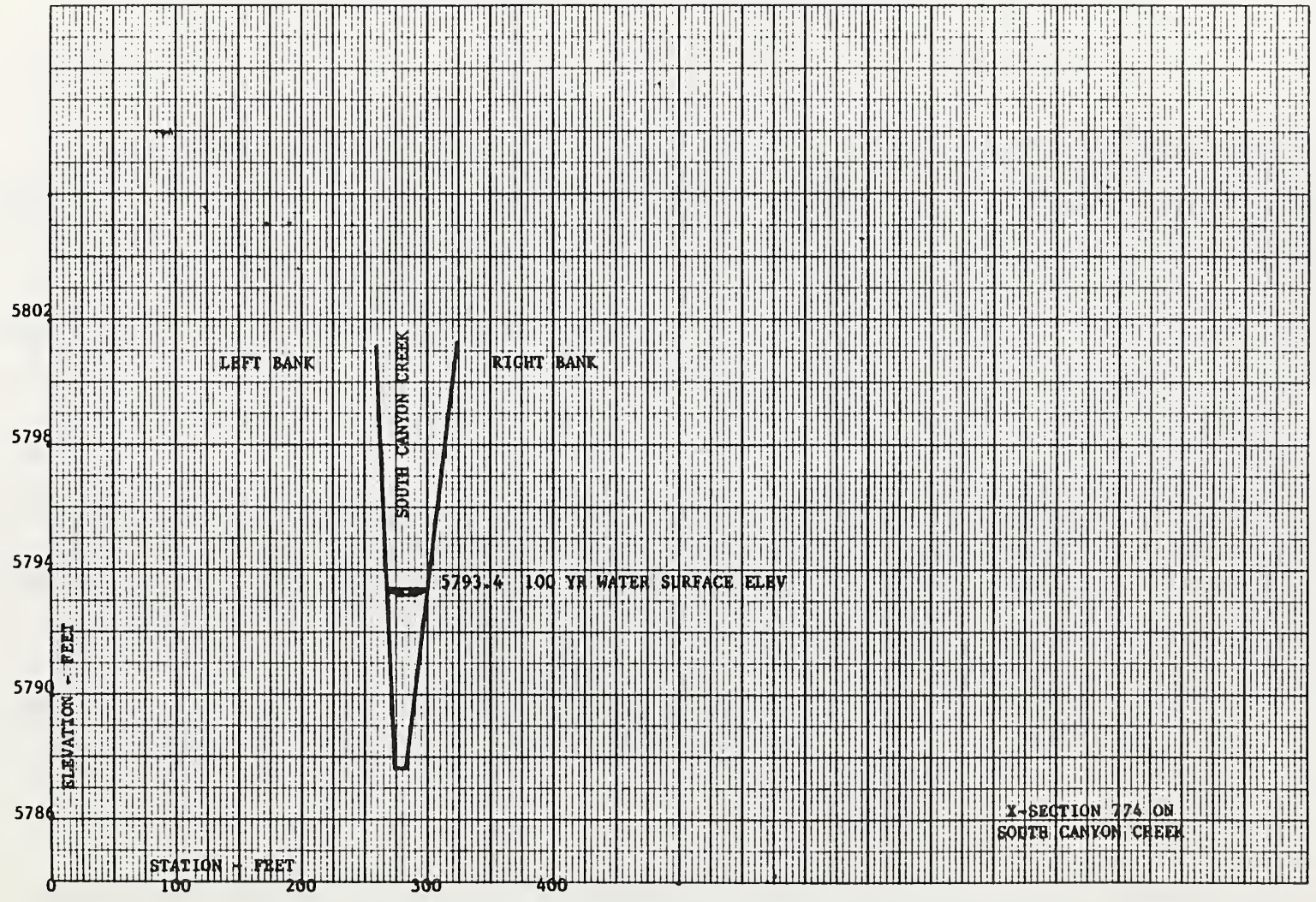
Figure 6



TYPICAL VALLEY CROSS-SECTION

COLORADO RIVER TRIBUTARIES FLOOD PLAIN MANAGEMENT STUDY

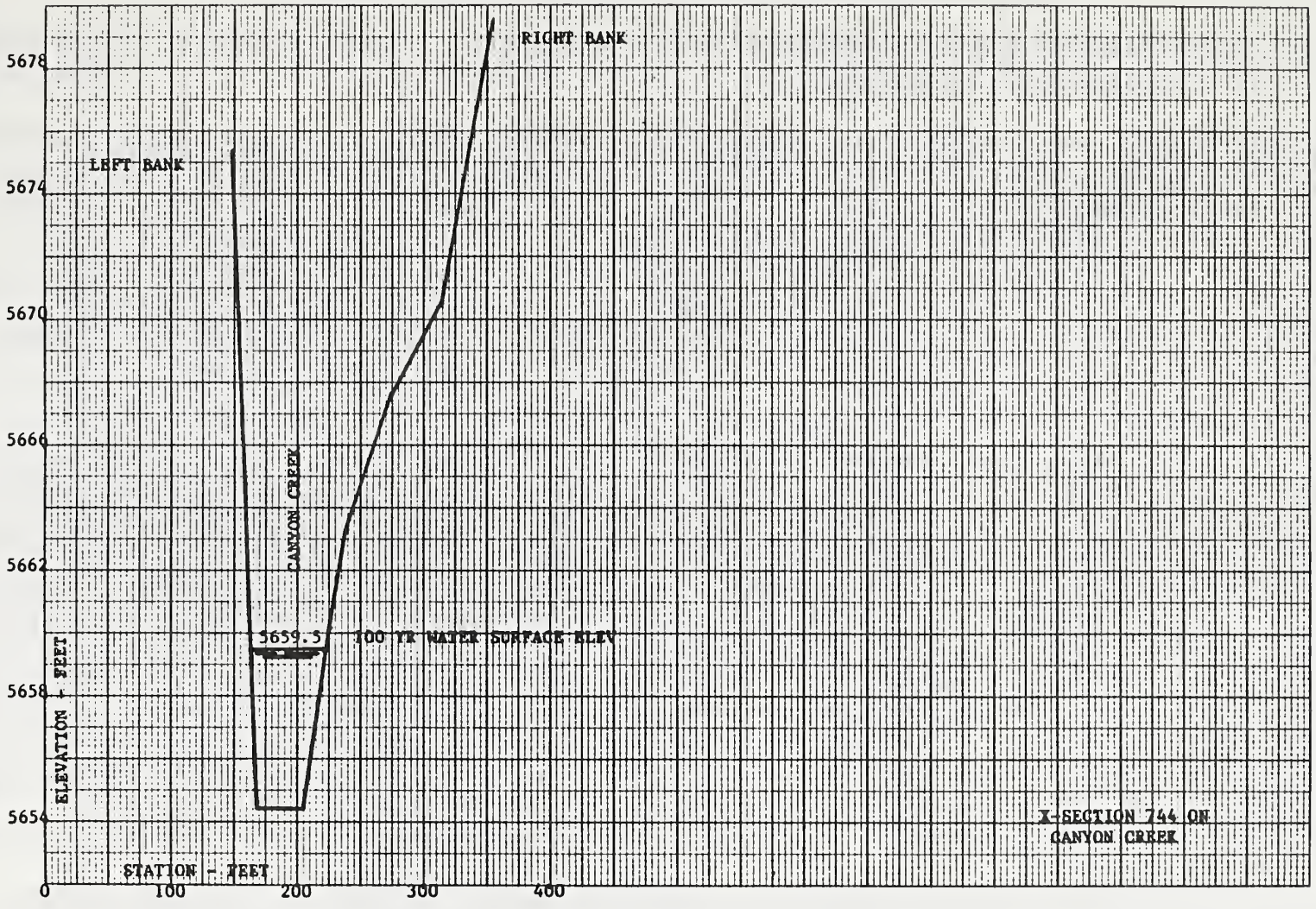
Figure 7



TYPICAL VALLEY CROSS-SECTION

COLORADO RIVER TRIBUTARIES FLOOD PLAIN MANAGEMENT STUDY

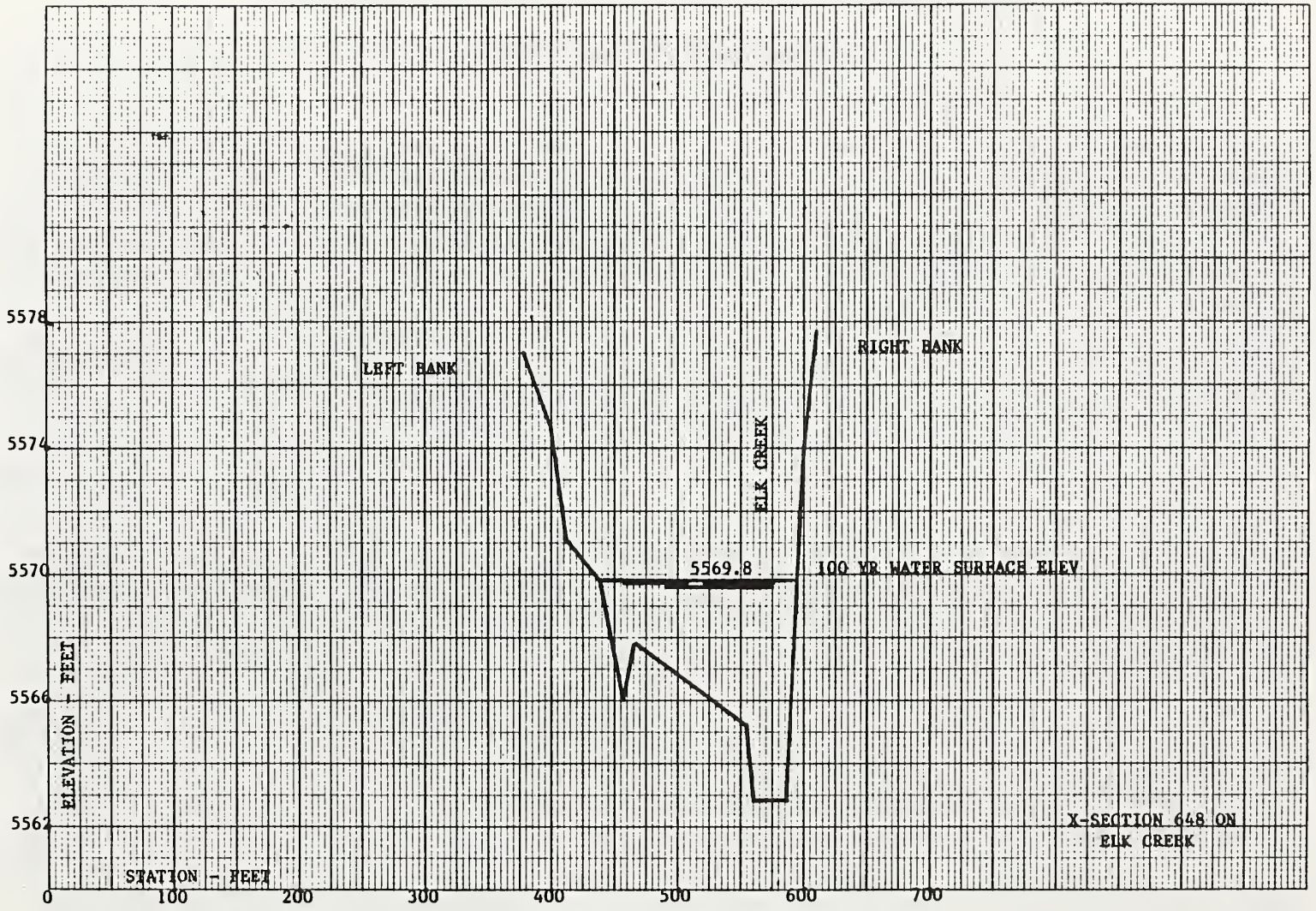
Figure 8



TYPICAL VALLEY CROSS-SECTION

COLORADO RIVER TRIBUTARIES FLOOD PLAIN MANAGEMENT STUDY

Figure 9



TYPICAL VALLEY CROSS-SECTION

COLORADO RIVER TRIBUTARIES FLOOD PLAIN MANAGEMENT STUDY

Figure 10

TABLE 1 FLOOD FREQUENCY-ELEVATION AND DISCHARGE DATA 1/

Cross Section Design-nation	Stationing from Mouth Feet (Meters)	Identification	Stream Bed Elevation Feet (Meters) N.G.V.D.	Crest-Elevation Feet National Geodetic Vertical Datum, and Peak Discharge c.f.s.			
				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
343	0 + 00	Co. River at Porcupine Cr.	5199.7	5209.7 31800 2/	5209.7 31800 2/	5209.7 31800 2/	5209.7 31800 2/
344	19 + 80	Porcupine Cr.	5244.5	5249.4 610	5250.2 880	5250.5 1040	5251.6 1580
345	29 + 60	Porcupine Cr.	5269.8	5273.3 610	5273.9 880	5274.2 1040	5275.1 1580
346	33 + 60	Porcupine Cr.	5282.2	5287.8 610	5288.8 880	5289.7 1040	5290.3 1580
347.1	33 + 80	County Road 320	5285.6	5289.7 610	5290.7 880	5291.2 1040	5293.8 1580
347.2	34 +25	County Road 320	5285.6	5294.1 610	5994.5 880	5294.7 1040	5295.3 1580
348	34 + 45	Porcupine Cr.	5286.9	5294.1 610	5294.5 880	5294.7 1040	5295.3 1580
349	42 + 45	Porcupine Cr.	5315.5	5318.4 610	5318.6 880	5318.7 1040	5318.9 1580

1/ Flood elevations pertain to the primary channel and usually remain constant in a lateral direction across the flood plain. However, flood elevations in the outer portions of a cross section may differ from the primary channel due to road crossings, upstream diversions, etc.

2/ Discharge in Colorado River at 25 Year Frequency

TABLE 1 FLOOD FREQUENCY-ELEVATION AND DISCHARGE DATA 1/

Cross Section Design-nation	Stationing from Mouth Feet (Meters)	Identification	Stream Bed Elevation Feet (Meters) N.G.V.D.	Crest-Elevation Feet National Geodetic Vertical Datum, and Peak Discharge c.f.s.			
				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
350	51 + 05	Porcupine Cr.	5344.8	5345.2 610	5345.2 880	5345.2 1040	5345.2 1580
351	58 + 65	Copper Study Limit	5370.0	5373.0 610	5373.4 880	5373.6 1040	5374.3 1580

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Cross Section Design-nation	Stationing from Mouth Feet (Meters)	Identification	Stream Bed Elevation Feet (Meters) N.G.V.D.	Crest-Elevation Feet National Geodetic Vertical Datum, and Peak Discharge c.f.s.			
				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
354	0 + 00	Co. River at Beaver Cr.	5209.6	5224.1 31300 2/	5224.1 31300 2/	5224.1 31300 2/	5224.1 31300 2/
355	6 + 20	Beaver Cr.	5244.0	5248.1 414	5248.8 612	5249.1 720	5250.1 1134
356	15 + 20	Beaver Cr.	5288.7	5291.5 414	5292.0 612	5292.3 720	5292.9 1134
357	22 + 70	Beaver Cr.	5318.0	5320.4 414	5320.8 612	5320.9 720	5321.4 1134
358	28 + 90	Beaver Cr.	5347.5	5349.6 690	5350.0 1020	5350.1 1200	5350.3 1890
359	35 + 90	Beaver Cr.	5388.6	5390.8 690	5391.1 1020	5391.3 1200	5392.0 1890
360	43 + 30	Beaver Cr.	5427.0	5430.4 690	5431.0 1020	5431.3 1200	5432.1 1890
361.1	47 + 70	County Road 320	5450.2	5453.9 690	5454.7 1020	5455.1 1200	5456.3 1890

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2/ Discharge in Colorado River at 25 year frequency.

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Cross Section Design-nation	Stationing from Mouth Feet (Meters)	Identification	Stream Bed Elevation Feet (Meters) N.G.V.D.	Crest-Elevation Feet National Geodetic Vertical Datum, and Peak Discharge c.f.s.			
				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
361.2	47 + 95	Beaver Cr.	5450.2	5458.5 690	5459.0 1020	5459.2 1200	5460.0 1890
362	54 + 55	Beaver Cr.	5489.5	5492.5 690	5493.1 1020	5493.3 1200	5494.1 1890
363	61 + 15	Beaver Cr.	5527.3	5529.8 690	5530.4 1020	5530.7 1200	5531.6 1890
364	65 + 55	Beaver Cr.	5553.2	5557.0 690	5557.7 1020	5558.1 1200	5559.4 1890
365	71 + 55	Beaver Cr.	5587.6	5589.7 690	5590.2 1020	5590.4 1200	5591.2 1890
366	71 + 65	Upper Study Limit	5628.9	5632.4 690	5633.2 1020	5633.5 1200	5635.0 1890

1/ Flood elevations pertain to the primary channel and usually remain constant in a lateral direction across the flood plain. However, flood elevations in the outer portions of a cross section may differ from the primary channel due to road crossings, upstream diversions, etc.

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				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
445	0 + 00	Co. River at Mamm Cr.	5344.5	5353.7 30800 2/	5353.7 30800 2/	5353.7 30800 2/	5353.7 30800 2/
446	11 + 80	Mamm Cr.	5349.5	5355.0 1380	5355.1 2310	5355.2 2850	5356.1 5000
447	17 + 80	Mamm Cr.	5354.9	5357.9 1380	5358.8 2310	5359.6 2850	5360.5 5000
448	24 + 80	Mamm Cr.	5365.0	5369.8 1380	5371.3 2310	5372.3 2850	5374.4 5000
449	26 + 15	Mamm Cr.	5367.0	5371.6 1380	5373.0 2310	5373.2 2850	5375.4 5000
450	26 + 90	Mamm Cr.	5369.0	5373.4 1380	5374.9 2310	5375.6 2850	5378.8 5000
451.1	28 + 30	Interstate Highway I-70	5371.1	5375.4 1380	5377.0 2310	5377.8 2850	5378.2 5000
451.2	28 + 80	Interstate Highway I-70	5371.1	5375.4 1380	5377.0 2310	5377.8 2850	5378.3 5000

1/ Flood elevations pertain to the primary channel and usually remain constant in a lateral direction across the flood plain. However, flood elevations in the outer portions of a cross section may differ from the primary channel due to road crossings, upstream diversions, etc.

2/ Discharge in Colorado River at 25 year frequency.

TABLE 1 FLOOD FREQUENCY-ELEVATION AND DISCHARGE DATA 1/

Cross Section Design-nation	Stationing from Mouth Feet (Meters)	Identification	Stream Bed Elevation Feet (Meters) N.G.V.D.	Crest-Elevation Feet National Geodetic Vertical Datum, and Peak Discharge c.f.s.			
				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
452	29 + 20	Mamm Cr.	5371.3	5375.4 1380	5377.0 2310	5377.8 2850	5379.0 5000
453.1	29 + 60	Interstate Highway I-70	5371.5	5376.2 1380	5377.5 2310	5378.2 2850	5380.1 5000
453.2	30 + 10	Interstate Highway I-70	5371.5	5376.2 1380	5377.5 2310	5378.2 2850	5380.1 5000
454	31 + 10	Mamm Cr.	5371.6	5376.5 1380	5377.9 2310	5378.5 2850	5380.5 5000
455	34 + 10	Mamm Cr.	5374.8	5381.2 1380	5383.8 2310	5384.4 2850	5385.6 5000
456.1	34 + 55	County Road	5375.0	5382.9 1380	5383.8 2310	5384.4 2850	5388.0 5000
456.2	34 + 70	County Road	5375.0	5382.9 1380	5384.0 2310	5384.9 2850	5388.1 5000
457	34 + 95	Mamm Cr.	5375.0	5383.5 1380	5386.3 2310	5386.6 2850	5389.0 5000

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TABLE 1 FLOOD FREQUENCY-ELEVATION AND DISCHARGE DATA 1/

Cross Section Design-nation	Stationing from Mouth Feet (Meters)	Identification	Stream Bed Elevation Feet (Meters) N.G.V.D.	Crest-Elevation Feet National Geodetic Vertical Datum, and Peak Discharge c.f.s.			
				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
458	39 + 75	Mamm Cr.	5379.1	5383.8 1380	5386.3 2310	5386.6 2850	5389.0 5000
459	47 + 75	Mamm Cr.	5386.2	5389.1 1380	5389.9 2310	5390.3 2850	5390.9 5000
460	55 + 15	Mamm Cr.	5393.2	5399.0 1380	5399.8 2310	5400.2 2850	5401.4 5000
461.1	55 + 50	County Road 315	5394.5	5401.6 1380	5404.3 2310	5405.7 2850	5412.9 5000
461.2	56 + 30	County Road 315	5394.5	5410.6 1380	5411.1 2310	5411.3 2850	5413.0 5000
462	56 + 70	Mamm Cr.	5394.8	5411.1 1380	5412.1 2310	5412.5 2850	5413.8 5000
463	66 + 50	Mamm Cr.	5403.0	5411.1 1380	5412.1 2310	5412.5 2850	5413.8 5000
464	78 + 90	Mamm Cr.	5413.6	5417.7 1380	5418.8 2310	5419.4 2850	5422.3 5000

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Cross Section Design-nation	Stationing from Mouth Feet (Meters)	Identification	Stream Bed Elevation Feet (Meters) N.G.V.D.	Crest-Elevation Feet National Geodetic Vertical Datum, and Peak Discharge c.f.s.			
				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
465	87 + 50	Mamm Cr.	5421.9	5428.7 1380	5430.5 2310	5431.3 2850	5434.8 5000
466	101 + 90	Mamm Cr.	5436.5	5441.0 1380	5441.8 2310	5442.3 2850	5442.9 5000
467	113 + 70	Mamm Cr.	5446.6	5452.3 1380	5453.0 2310	5453.3 2850	5454.3 5000
468	121 + 30	Mamm Cr.	5454.5	5458.4 1380	5459.1 2310	5459.4 2850	5460.6 5000
469	135 + 70	Upstream Study Limit	5467.6	5472.0 1380	5472.4 2310	5472.6 2850	5473.3 5000

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Cross Section Design-nation	Stationing from Mouth Feet (Meters)	Identification	Stream Bed Elevation Feet (Meters) N.G.V.D.	Crest-Elevation Feet National Geodetic Vertical Datum, and Peak Discharge c.f.s.			
				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
488	0 + 00	Co. River at Dry Hollow	5399.7	5407.8 30400 2/	5407.8 30400 2/	5407.8 30400 2/	5407.8 30400 2/
489	13 + 20	Rising Sun Ditch	5414.1	5418.4 650	5419.3 950	5419.7 1120	5421.0 1740
490	21 + 20	Dry Hollow	5423.3	5428.0 650	5428.5 950	5428.7 1120	5429.4 1740
491	29 + 40	Dry Hollow	5426.4	5429.1 650	5429.6 950	5429.8 1120	5430.5 1740
492.1	29 + 70	County Road	5431.0	5435.2 650	5436.2 950	5436.7 1120	5439.6 1740
492.2	29 + 95	County Road	5431.0	5435.4 650	5439.3 950	5439.5 1120	5440.2 1740
493	30 + 25	Dry Hollow	5432.4	5436.8 650	5439.7 950	5440.0 1120	5440.7 1740
494	38 + 65	Dry Hollow	5437.4	5441.3 650	5441.8 950	5442.1 1120	5442.9 1740

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2/ Discharge in Colorado River at 25 year frequency.

TABLE 1 FLOOD FREQUENCY-ELEVATION AND DISCHARGE DATA 1/

Cross Section Design-nation	Stationing from Mouth Feet (Meters)	Identification	Stream Bed Elevation Feet (Meters) N.G.V.D.	Crest-Elevation Feet National Geodetic Vertical Datum, and Peak Discharge c.f.s.			
				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
495	50 + 65	Dry Hollow	5448.0	5452.8 650	5453.6 950	5453.9 1120	5454.8 1740
496	57 + 65	Dry Hollow	5455.3	5458.8 650	5459.5 950	5459.8 1120	5460.6 1740
497.1	57 + 90	Private Road	5456.0	5460.7 650	5461.9 950	5462.5 1120	5465.6 1740
497.2	58 + 15	Private Road	5456.0	5464.9 650	5465.3 950	5465.5 1120	5466.3 1740
498	58 + 45	Dry Hollow	5457.0	5465.2 650	5465.7 650	5466.0 1120	5466.7 1740
499	66 + 05	Dry Hollow	5467.5	5470.9 650	5471.2 950	5471.3 1120	5471.9 1740
500	71 + 65	Dry Hollow	5472.9	5476.5 650	5477.1 950	5477.4 1120	5478.1 1740
501	84 + 05	Dry Hollow	5488.4	5493.2 650	5493.6 950	5493.9 1120	5494.5 1740

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Table page 10

TABLE 1 FLOOD FREQUENCY-ELEVATION AND DISCHARGE DATA 1/

Cross Section Design-nation	Stationing from Mouth Feet (Meters)	Identification	Stream Bed Elevation Feet (Meters) N.G.V.D.	Crest-Elevation Feet National Geodetic Vertical Datum, and Peak Discharge c.f.s.			
				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
502	97 + 85	Dry Hollow	5503.0	5507.4 650	5508.2 950	5508.7 1120	5509.7 1740
503	110 + 85	Dry Hollow	5520.6	5524.5 650	5525.1 950	5525.2 1120	5526.4 1740
504	113 + 25	Dry Hollow	5523.1	5526.9 650	5527.7 950	5528.2 1120	5529.4 1740
505.1	113 + 50	Private Road	5524.0	5529.9 650	5532.6 950	5533.0 1120	5533.6 1740
505.2	113 + 75	Private Road	5524.0	5532.9 650	5533.8 950	5534.0 1120	5534.8 1740
506	114 + 05	Upper Study Limit	5524.9	5533.2 650	5534.0 950	5534.2 1120	5535.0 1740

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TABLE 1 FLOOD FREQUENCY-ELEVATION AND DISCHARGE DATA 1/

Cross Section Design-nation	Stationing from Lower Study Limit Feet (Meters)	Identification	Stream Bed Elevation Feet (Meters) N.G.V.D.	Crest-Elevation Feet National Geodetic Vertical Datum, and Peak Discharge c.f.s.			
				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
518	0 + 00	CO River at Divide Cr	5437.1	5443.8 29900 2/	5443.8 2990 2/	5443.8 29900 2/	5443.8 2990 2/
519	9 + 00	Divide Cr	5444.0	5448.8 2350	5451.7 4400	5452.3 5600	5453.6 10000
520	12 + 20	Divide Cr	5451.3	5457.5 2350	5458.7 4400	5459.3 5600	5460.8 10000
521.1	13 + 45	County Rd 311	5451.8	5457.5 2350	5460.8 4400	5461.6 5600	5463.0 10000
521.2	13 + 80	County Rd 311	5451.8	5457.5 2350	5462.8 4400	5463.3 5600	5464.6 10000
522	13 + 90	Divide Cr	5452.4	5458.4 2350	5462.9 4400	5463.4 5600	5464.7 10000
523	21 + 30	Divide Cr	5462.3	5467.3 2350	5467.9 4400	5468.5 5600	5470.0 10000
524	29 + 00	Divide Cr	5474.3	5478.6 2350	5480.2 4400	5480.6 5600	5481.5 10000

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2/ Discharge in Colorado River at 25 year frequency.

TABLE 1 FLOOD FREQUENCY-ELEVATION AND DISCHARGE DATA 1/

Cross Section Design-nation	Stationing from Lower Study Limit Feet (Meters)	Identification	Stream Bed Elevation Feet (Meters) N.G.V.D.	Crest-Elevation Feet National Geodetic Vertical Datum, and Peak Discharge c.f.s.			
				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
525	37 + 50	Divide Cr	5480.9	5486.6 2350	5487.5 4400	5487.9 5600	5489.1 10000
526	45 + 50	Divide Cr	5489.1	5494.4 2350	5497.2 4400	5497.9 5600	5498.8 10000
527	53 + 10	Divide Cr	5496.0	5501.9 2350	5502.8 4400	5503.1 5600	5504.6 10000
528	62 + 30	Divide Cr	5505.5	5509.6 2350	5510.4 4400	5510.9 5600	5512.1 10000
529	72 + 50	Divide Cr	5513.1	5519.7 2350	5521.5 4400	5522.1 5600	5524.0 10000
530	80 + 10	Divide Cr	5521.3	5526.6 2350	5528.3 4400	5529.0 5600	5530.7 10000
531	92 + 70	Divide Cr	5532.6	5539.0 2350	5539.9 4400	5540.3 5600	5541.2 10000
532	109 + 90	Divide Cr	5545.0	5552.0 2350	5553.4 4400	5554.0 5600	5555.9 10000

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Cross Section Design-nation	Stationing from Lower Study Limit Feet (Meters)	Identification	Stream Bed Elevation Feet (Meters) N.G.V.D.	Crest-Elevation Feet National Geodetic Vertical Datum, and Peak Discharge c.f.s.			
				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
533	121 + 30	Divide Cr	5552.0	5558.9 2350	5560.3 4400	5560.9 5600	5562.6 10000
534	133 + 50	Divide Cr	5561.8	5568.2 2350	5569.3 4400	5570.3 5600	5571.6 10000
535	141 + 50	Divide Cr	5571.5	5578.4 2350	5579.5 4400	5579.9 5600	5580.9 10000
536	147 + 00	Divide Cr	5581.7	5588.2 2350	5589.4 4400	5589.9 5600	5590.9 10000
537	158 + 60	Divide Cr	5595.2	5600.0 2350	5601.1 4400	5601.5 5600	5603.1 10000
538	158 + 95	Divide Cr	5597.0	5601.1 2350	5602.1 4400	5602.5 5600	5603.5 10000
539	160 + 15	Divide Cr	5598.2	5602.5 2350	5603.6 4400	5604.1 5600	5605.5 10000
540	167 + 55	Divide Cr	5607.9	5612.4 2350	5614.0 4400	5614.4 5600	5615.5 10000

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Cross Section Design-nation	Stationing from Lower Study Limit Feet (Meters)	Identification	Stream Bed Elevation Feet (Meters) N.G.V.D.	Crest-Elevation Feet National Geodetic Vertical Datum, and Peak Discharge c.f.s.			
				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
541	173 + 55	Divide Cr	5619.9	5625.8 2350	5628.8 4400	5629.7 5600	5631.8 10000
542	174 + 85	Divide Cr at Tribe #1	5625.7	5631.2 2350	5632.5 4400	5633.0 5600	5634.5 10000
551	181 + 25	Divide Cr	5638.3	5643.6 2310	5645.4 4350	5646.3 5550	5648.3 9900
553	182 + 05	Divide Cr at Tribe #2	5640.0	5645.2 2310	5647.2 4350	5649.1 5550	5650.9 9900
554	189 + 05	Divide Cr	5653.0	5658.7 2280	5661.1 4300	5662.4 5500	5666.3 9800
555	190 + 75	Divide Cr	5654.0	5661.6 2280	5664.5 4300	5666.0 5500	5669.4 9800
556.1	191 + 35	Private Road	5655.0	5661.9 2280	5664.5 4300	5666.5 5500	5669.4 9800
556.2	191 + 55	Private Road	5655.0	5663.9 2280	5666.6 4300	5668.2 5500	5670.4 9800

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Cross Section Design-nation	Stationing from Mouth Feet (Meters)	Identification	Stream Bed Elevation Feet (Meters) N.G.V.D.	Crest-Elevation Feet National Geodetic Vertical Datum, and Peak Discharge c.f.s.			
				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
557	191 + 85	Divide Cr	5656.0	5663.9 2280	5666.5 4300	5668.2 5500	5670.4 9800
558	192 + 95	Divide Cr	5660.0	5665.2 2280	5667.9 4300	5668.5 5500	5670.4 9800
559	193 + 40	Divide Cr	5665.1	5668.7 2280	5670.1 4300	5670.9 5500	5672.5 9800
560	205 + 40	Divide Cr	5664.6	5671.7 2280	5673.3 4300	5674.1 5500	5676.3 9800
561	223 + 60	Upper Study Limit	5667.0	5673.5 2280	5674.5 4300	5675.2 5500	5677.4 9800

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TABLE 1 FLOOD FREQUENCY-ELEVATION AND DISCHARGE DATA 1/

Cross Section Design-nation	Stationing from Lower Study Limit Feet (Meters)	Identification	Stream Bed Elevation Feet (Meters) N.G.V.D.	Crest-Elevation Feet National Geodetic Vertical Datum, and Peak Discharge c.f.s.			
				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
542	174 + 85	Divide Cr Trib #1	5625.7	5631.2 2350	5632.5 4400	5633.0 5600	5634.5 10000
543	182 + 65	Divide Cr Trib #1	5664.6	5667.9 240	5668.1 290	5668.2 310	5668.5 390
544	191 + 05	Divide Cr Trib #1	5719.4	5721.7 240	5721.8 290	5721.9 310	5722.2 390
545	198 + 35	Divide Cr Trib #1	5751.4	5753.6 240	5753.8 290	5753.9 310	5754.1 390
546	198 + 60	Divide Cr Trib #1	5762.6 240	5763.6 240	5763.7 290	5763.8 310	5763.9 390
547	200 + 60	Divide Cr Trib #1	5768.2	5769.0 240	5769.1 290	5769.2 310	5769.3 390
549.1	205 + 00	Private Road	5772.1	5774.5 240	5774.7 290	5774.8 310	5775.1 390
549.2	205 + 35	Private Road	5772.1	5774.6 240	5774.8 290	5774.9 310	5775.2 390

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Cross Section Design-nation	Stationing from Lower Study Limit Feet (Meters)	Identification	Stream Bed Elevation Feet (Meters) N.G.V.D.	Crest-Elevation Feet National Geodetic Vertical Datum, and Peak Discharge c.f.s.			
				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
550	207 + 15	Upper Study Limit	5779.1	5780.1 240	5780.2 290	5780.3 310	5780.4 390

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Cross Section Design-nation	Stationing from Lower Study Limit Feet (Meters)	Identification	Stream Bed Elevation Feet (Meters) N.G.V.D.	Crest-Elevation Feet National Geodetic Vertical Datum, and Peak Discharge c.f.s.			
				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
553	182 + 05	Divide Cr at Trib #2	5640.0	5645.2 2310	5647.2 4350	5649.1 5550	5650.9 9900
562	189 + 85	Divide Cr Trib #2	5665.3	5669.3 465	5669.5 640	5669.8 730	5670.2 1070
563	191 + 85	Divide Cr Trib #2	5669.0	5672.8 465	5673.2 640	5673.4 730	5674.0 1070
564.1	192 + 35	Private Road	5670.9	5675.6 465	5676.0 640	5676.2 730	5676.8 1070
564.2	192 + 55	Private Road	5670.9	5675.7 465	5676.3 640	5676.5 730	5677.3 1070
565	192 + 85	Divide CR Trib #2	5671.9	5675.8 465	5676.4 640	5676.6 730	5677.4 1070
566	197 + 25	Divide Cr Trib #2	5684.5	5688.6 465	5689.0 640	5689.1 730	5689.8 1070
567.1	198 + 05	County Road	5688.2	5691.5 465	5692.1 640	5692.4 730	5693.8 1070

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				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
567.2	198 + 40	County Road	5688.2	5691.6 465	5694.1 640	5694.2 730	5694.6 1070
568	198 + 50	Divide Cr Tribe #2	5689.6	5692.7 465	5694.1 640	5694.2 730	5694.6 1070
569	205 + 70	Divide Cr Trib #2	5708.7	5713.3 465	5713.9 640	5714.2 730	5715.1 1070
570	209 + 70	Divide Cr Trib #2	5719.0	5722.9 465	5723.4 640	5723.6 730	5724.3 1070
571	214 + 20	Divide Cr Trib #2	5729.4	5732.9 465	5733.4 640	5733.7 730	5734.6 1070
572	222 + 40	Upper Study Limit	5752.6	5756.3 465	5656.8 640	5657.0 730	5657.7 1070

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				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
585	0 + 00	CO River at Garfield Cr	5492.1	5501.5 29400 2/	5501.5 29400 2/	5501.5 29400 2/	5501.5 29400 2/
586	7 + 00	Garfield Cr	5500.8	5504.5 1180	5505.5 1920	5506.1 2380	5507.6 4000
587	12 + 50	Garfield Cr	5512.6	5517.0 1180	5518.4 1920	5519.1 2380	5521.7 4000
588	17 + 90	Garfield Cr	5532.8	5537.1 1180	5537.7 1920	5538.1 2380	5538.8 4000
589.1	19 + 30	County Road 335	5533.1	5538.5 1180	5539.4 1920	5540.3 2380	5544.7 4000
589.2	19 + 52	County Road 335	5553.1	5540.4 1180	5542.8 1920	5543.2 2380	5545.6 4000
590	19 + 97	Garfield Cr	5536.4	5540.7 1180	5543.7 1920	5544.4 2380	5546.2 4000
591	26 + 97	Garfield Cr	5554.3	5559.9 1180	5561.4 1920	5562.1 2380	5564.9 4000

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Cross Section Design-nation	Stationing from Lower Study Limit Feet (Meters)	Identification	Stream Bed Elevation Feet (Meters) N.G.V.D.	Crest-Elevation Feet National Geodetic Vertical Datum, and Peak Discharge c.f.s.			
				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
592	33 + 97	Garfield Cr	5575.8	5581.3 1180	5582.7 1920	5583.3 2380	5584.8 4000
593	40 + 97	Garfield Cr	5594.0	5598.7 1180	5600.0 1920	5600.9 2380	5602.4 4000
594.1	41 + 67	County Road 312	5597.0	5601.4 1180	5602.9 1920	5603.7 2380	5606.1 4000
594.2	41 + 92	County Road 312	5597.0	5601.5 1180	5603.0 1920	5603.8 2380	5611.6 4000
595	42 + 07	Garfield Cr	5598.0	5602.9 1180	5605.0 1920	5606.1 2380	5612.3 4000
596	49 + 47	Garfield Cr	5614.0	5618.8 1180	5620.1 1920	5620.8 2380	5622.8 4000
597	61 + 47	Garfield Cr	5642.1	5647.1 1180	5648.6 1920	5649.0 2380	5649.8 4000
598	68 + 47	Garfield Cr	5651.9	5656.6 1180	5657.0 1920	5657.5 2380	5659.2 4000

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				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
599	71 + 07	Garfield Cr	5658.8	5663.6 1180	5665.2 1920	5665.7 2380	5666.7 4000
600.1	72 + 07	Private Road	5658.8	5665.7 1180	5667.2 1920	5667.5 2380	5668.4 4000
600.2	72 + 22	Private Road	5658.8	5665.8 1180	5667.5 1920	5668.0 2380	5669.3 4000
601	72 + 82	Garfield Cr	5661.7	5666.8 1180	5668.0 1920	5668.6 2380	5669.8 4000
602	83 + 02	Garfield Cr	5678.2	5684.1 1180	5686.4 1920	5687.3 2380	5689.1 4000
603	92 + 02	Garfield Cr	5704.5	5709.4 1180	5710.5 1920	5710.9 2380	5712.0 4000
604	100 + 42	Garfield Cr	5722.7	5727.9 1180	5729.2 1920	5729.8 2380	5731.5 4000
605	105 + 22	Upper Study Limit	5735.4	5739.7 1180	5741.0 1920	5741.6 2380	5743.7 4000

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Cross Section Design-nation	Stationing from Lower Study Limit Feet (Meters)	Identification	Stream Bed Elevation Feet (Meters) N.G.V.D.	Crest-Elevation Feet National Geodetic Vertical Datum, and Peak Discharge c.f.s.			
				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
610	0 + 00	CO River at Alkali Cr	5506.8	5524.9 29400 2/	5524.9 29400 2/	5524.9 29400 2/	5524.9 29400 2/
611.1	9 + 30	Dam	5528.3	5533.0 720	5534.3 1090	5534.9 1290	5536.8 2000
611.2	9 + 05	Dam	5528.3	5543.1 720	5543.3 1090	5543.4 1290	5543.5 2000
612	9 + 70	Alkali Cr	5530.5	5543.2 720	5543.4 1090	5543.5 1290	5543.8 2000
613	12 + 10	Alkali Cr	5536.2	5543.2 720	5543.8 1090	5544.1 1290	5544.7 2000
614	17 + 90	Alkali Cr	5550.2	5555.6 720	5556.6 1090	5557.1 1290	5558.4 2000
615	23 + 50	Alkali Cr	5568.0	5572.2 720	5572.8 1090	5573.1 1290	5574.0 2000
616.1	23 + 90	County Road 335	5568.5	5572.4 720	5573.6 1090	5574.2 1290	5575.9 2000

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Cross Section Design-nation	Stationing from Lower Study Limit Feet (Meters)	Identification	Stream Bed Elevation Feet (Meters) N.G.V.D.	Crest-Elevation Feet National Geodetic Vertical Datum, and Peak Discharge c.f.s.			
				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
616.2	24 + 30	County Road 335	5568.5	5576.2 720	5582.8 1090	5587.2 1290	5589.2 2000
617	24 + 40	Alkali Cr	5568.8	5576.3 720	5582.9 1090	5587.3 1290	5589.3 2000
618	29 + 40	Alkali Cr	5584.5	5587.5 720	5588.3 1090	5588.6 1290	5589.7 2000
619	37 + 65	Alkali Cr	5605.8	5610.3 720	5611.1 1090	5611.5 1290	5612.7 2000
620	44 + 45	Alkali Cr	5628.4	5631.3 720	5631.9 1090	5632.2 1290	5633.1 2000
621	50 + 75	Alkali Cr	5643.3	5647.2 720	5647.9 1090	5648.2 1290	5649.2 2000
622	58 + 95	Alkali Cr	5664.6	5668.7 720	5669.5 1090	5669.9 1290	5671.2 2000
623	64 + 75	Alkali Cr	5679.1	5683.3 720	5684.3 1090	5684.7 1290	5686.0 2000

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TABLE 1 FLOOD FREQUENCY-ELEVATION AND DISCHARGE DATA 1/

Cross Section Design-nation	Stationing from Lower Study Limit Feet (Meters)	Identification	Stream Bed Elevation Feet (Meters) N.G.V.D.	Crest-Elevation Feet National Geodetic Vertical Datum, and Peak Discharge c.f.s.			
				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
624.1	65 + 75	County Road 314	5682.0	5686.8 720	5688.1 1090	5688.8 1290	5690.7 2000
624.2	66 + 40	County Road 314	5682.0	5697.5 720	5698.2 1090	5698.5 1290	5699.2 2000
625	67 + 20	Alkali Cr	5684.4	5697.6 720	5698.3 1090	5698.6 1290	5699.4 2000
626	75 + 60	Alkali Cr	5707.4	5712.2 720	5713.0 1090	5713.3 1290	5714.5 2000
627	80 + 80	Alkali Cr	5722.0	5726.9 720	5727.8 1090	5728.3 1290	5729.7 2000
628	88 + 90	Alkali Cr	5747.3	5752.8 720	5754.0 1090	5754.6 1290	5756.3 2000
629	95 + 90	Upper Study Limit	5781.8	5785.3 720	5786.1 1090	5786.5 1290	5787.6 2000

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				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
768	0 + 00	Co River at So. Canyon Cr	5634.8	5649.6 28500 2/	5649.6 28500 2/	5649.6 28500 2/	5649.6 28500 2/
769.1	0 + 80	Denver & Rio Grand Western Railroad	5645.0	5651.1 630	5651.2 930	5651.3 1080	5652.3 1670
769.2	1 + 55	Denver & Rio Grand Western Railroad	5645.0	5651.1 630	5651.2 930	5651.3 1080	5653.4 1670
770	1 + 85	So. Canyon	5648.7	5651.9 630	5652.6 930	5653.0 1080	5655.4 1670
771	6 + 65	So. Canyon	5680.8	5686.8 630	5687.8 930	5688.2 1080	5689.6 1670
772	13 + 45	So. Canyon	5721.1	5725.1 630	5726.0 930	5726.5 1080	5727.9 1670
773	18 + 35	So. Canyon	5746.2	5751.1 630	5752.2 930	5752.7 1080	5754.9 1670
774	26 + 15	So. Canyon	5787.7	5792.1 630	5793.0 930	5793.4 1080	5794.7 1670

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2/ Discharge in Colorado River at 25 year frequency.

TABLE 1 FLOOD FREQUENCY-ELEVATION AND DISCHARGE DATA 1/

Cross Section Design-nation	Stationing from Lower Study Limit Feet (Meters)	Identification	Stream Bed Elevation Feet (Meters) N.G.V.D.	Crest-Elevation Feet National Geodetic Vertical Datum, and Peak Discharge c.f.s.			
				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
775	34 + 15	So. Canyon	5815.7	5820.0 630	5821.0 930	5821.5 1080	5822.9 1670
776	44 + 15	So. Canyon	5854.9	5857.6 630	5858.3 930	5858.6 1080	5859.7 1670
777	50 + 95	So. Canyon	5882.3	5886.5 630	5887.2 930	5887.5 1080	5888.5 1670
778	56 + 75	So. Canyon	5915.2	5918.8 630	5919.6 930	5919.9 1080	5921.1 1670
779.1	57 + 05	County Road 134	5916.8	5921.3 630	5922.5 930	5923.0 1080	5924.8 1670
779.2	57 + 30	County Road 134	1916.8	5927.4 630	5927.9 930	5928.1 1080	5928.8 1670
781	57 + 60	So. Canyon	5921.2	5927.4 630	5927.9 930	5928.1 1080	5929.1 1670
782	64 + 40	So. Canyon	5946.0	5949.7 630	5950.6 930	5951.0 1080	5951.8 1670

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Cross Section Design-nation	Stationing from Lower Study Limit Feet (Meters)	Identification	Stream Bed Elevation Feet (Meters) N.G.V.D.	Crest-Elevation Feet National Geodetic Vertical Datum, and Peak Discharge c.f.s.			
				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
783	67 + 20	So. Canyon	5957.6	5960.3 630	5960.9 930	5961.2 1080	5962.1 1670
784	70 + 40	So. Canyon	5971.5	5977.5 630	5978.5 930	5979.6 1080	5980.5 1670
785	75 + 10	So. Canyon	5993.6	5997.4 630	5998.2 930	5998.6 1080	5999.8 1670
786	81 + 40	So. Canyon	6023.5	6027.4 630	6028.3 930	5028.7 1080	6030.0 1670
6002	92 + 60	So. Canyon	6088.0	6092.0 630	6092.7 930	6093.0 1080	6094.1 1670
6003	98 + 90	So. Canyon	6125.5	6130.4 630	6131.2 930	6131.5 1080	6132.6 1670
6004	104 + 50	So. Canyon	6161.5	6165.2 630	6166.0 930	6166.3 1080	6167.3 1670
6005	109 + 70	So. Canyon	6198.0	6202.4 630	6203.2 930	6303.7 1080	6204.6 1670

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Cross Section Design-nation	Stationing from Lower Study Limit Feet (Meters)	Identification	Stream Bed Elevation Feet (Meters) N.G.V.D.	Crest-Elevation Feet National Geodetic Vertical Datum, and Peak Discharge c.f.s.			
				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
6006	116 + 10	So. Canyon	6232.0	6237.1 630	6238.0 930	6238.5 1080	6240.0 1670
6007	122 + 90	So. Canyon	6278.0	6282.2 630	6282.9 930	6283.2 1080	6284.1 1670
6008	132 + 00	So. Canyon	6340.5	6343.6 630	6344.2 930	6344.5 1080	6345.3 1670
6009	140 + 00	So. Canyon	6399.5	6402.7 630	6403.4 930	6403.7 1080	6404.8 1670
6010	146 + 50	So. Canyon	6434.0	6438.5 630	6439.4 930	6439.8 1080	6441.2 1670
6011	150 + 70	So. Canyon	6438.0	6442.3 630	6443.3 930	6443.7 1080	6445.1 1670
6012.1	150 + 80	County Road 134	6439.3	6443.2 630	6444.1 930	6444.5 1080	6446.5 1670
6012.2	151 + 05	County Road 134	6439.3	6446.7 630	6447.2 930	6447.4 1080	6448.0 1670

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Cross Section Design-nation	Stationing from Lower Study Limit Feet (Meters)	Identification	Stream Bed Elevation Feet (Meters) N.G.V.D.	Crest-Elevation Feet National Geodetic Vertical Datum, and Peak Discharge c.f.s.			
				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
6013	151 + 30	So. Canyon	6443.0	6446.7 630	6447.2 930	6447.4 1080	6448.0 1670
6014	158 + 10	So. Canyon	6456.0	6459.1 630	6459.7 930	6460.0 1080	6460.8 1670
6015	167 + 10	Upper Study Limit	6491.0	6494.7 630	6495.3 930	6495.6 1080	6496.4 1670

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Cross Section Designation	Stationing from Lower Study Limit Feet (Meters)	Identification	Stream Bed Elevation Feet (Meters) N.G.V.D.	Crest-Elevation Feet National Geodetic Vertical Datum, and Peak Discharge c.f.s.			
				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
735	0 + 00	Co River at Canyon Cr	5601.2	5615.8 28500 2/	5615.8 28500 2/	5615.8 28500 2/	5615.8 28500 2/
736	2 + 40	Canyon Cr	5610.7	5618.3 1300	5618.4 2200	5618.5 2700	5618.6 4600
737.1	2 + 75	Denver Rio Grande Western Railroad	5612.9	5618.3 1300	5618.4 2200	5618.5 2700	5618.7 4600
737.2	3 + 10	Denver Rio Grande Western Railroad	5612.9	5618.4 1300	5618.5 2200	5618.6 2700	5619.0 4600
738	3 + 83	Canyon Cr	5613.8	5618.4 1300	5618.5 2200	5618.9 2700	5620.8 4600
739.1	4 + 08	Interstate Highway I-70	5618.5	5623.3 1300	5625.1 2200	5626.0 2700	5628.8 4600
739.2	6 + 58	Interstate Highway I-70	5618.5	5623.4 1300	5625.2 2200	5629.2 2700	5631.6 4600
740	7 + 28	Canyon Cr	5623.5	5627.2 1300	5628.6 2200	5629.3 2700	5632.4 4600

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2/ Discharge in Colorao River at 25 year frequency.

TABLE 1 FLOOD FREQUENCY-ELEVATION AND DISCHARGE DATA 1/

Cross Section Design-nation	Stationing from Lower Study Limit Feet (Meters)	Identification	Stream Bed Elevation Feet (Meters) N.G.V.D.	Crest-Elevation Feet National Geodetic Vertical Datum, and Peak Discharge c.f.s.			
				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
741.1	7 + 63	Frontage Road	5624.0	5627.6 1300	5629.1 2200	5629.8 2700	5632.4 4600
741.2	7 + 81	Frontage Road	5624.0	5627.7 1300	5629.2 2200	5634.8 2700	5636.9 4600
742	8 + 09	Canyon Cr	5625.6	5629.3 1300	5630.7 2200	5634.8 2700	5636.9 4600
743	12 + 49	Canyon Cr	5636.0	5639.4 1300	5640.5 2200	5640.9 2700	5642.2 4600
744	19 + 34	Canyon Cr	5654.4	5657.7 1300	5658.9 2200	5659.5 2700	5661.4 4600
745	27 + 14	Canyon Cr	5673.9	5676.7 1300	5677.8 2200	5678.3 2700	5680.0 4600
746	31 + 34	Canyon Cr	5688.2	5691.5 1300	5692.8 2200	5693.4 2700	5695.7 4600
747	34 + 09	Canyon Cr	5693.8	5697.1 1300	5698.3 2200	5698.9 2700	5700.7 4600

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Cross Section Design-nation	Stationing from Lower Stud Limit Feet (Meters)	Identification	Stream Bed Elevation Feet (Meters) N.G.V.D.	Crest-Elevation Feet National Geodetic Vertical Datum, and Peak Discharge c.f.s.			
				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
748	40 + 69	Canyon Cr	5812.8	5716.6 1300	5718.1 2200	5718.9 2700	5721.3 4600
749	46 + 69	Canyon Cr	5729.2	5732.0 1300	5733.1 2200	5733.7 2700	5735.5 4600
750	55 + 29	Canyon Cr	5758.0	5761.2 1300	5762.2 2200	5762.7 2700	5764.1 4600
751	63 + 99	Upper Study Limit	5792.2	5795.3 1300	5796.5 2200	5797.1 2700	5799.0 4600

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				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
632	0 + 00	Co River at Elk Cr	5516.5	5531.0 29400 2/	5531.0 29400 2/	5531.0 29400 2/	5531.0 29400 2/
633	5 + 80	Elk Cr	5523.5	5533.4 2200	5533.4 4200	5533.4 5200	5533.4 9300
634	6 + 45	Interstate Highway I-70	5524.1	5533.4 2200	5533.4 4200	5533.4 5200	5533.8 9300
635	7 + 55	Interstate Highway I-70	5524.1	5533.4 2200	5533.6 4200	5533.9 5200	5534.5 9300
636	7 + 85	Elk Cr	5526.4	5533.4 2200	5533.9 4200	5534.1 5200	5538.5 9300
637	9 + 70	Elk Cr	5529.3	5534.3 2200	5535.2 4200	5535.5 5200	5538.5 9300
638.1	10 + 40	Denver & Rio Grande Western Railroad	5530.0	5534.9 2200	5535.3 4200	5535.5 5200	5538.5 9300
638.2	10 + 90	Denver & Rio Grande Western Railroad	5530.0	5534.9 2200	5535.3 4200	5535.5 5200	5538.5 9300

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Cross Section Design-nation	Stationing from Lower Study Limit Feet (Meters)	Identification	Stream Bed Elevation Feet (Meters) N.G.V.D.	Crest-Elevation Feet National Geodetic Vertical Datum, and Peak Discharge c.f.s.			
				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
639	11 + 70	Elk Cr	5532.2	5535.9 2200	5537.9 4200	5538.7 5200	5540.9 9300
640	13 + 60	Elk Cr	5535.1	5539.1 2200	5540.8 4200	5541.4 5200	5544.2 9300
641.1	14 + 20	New Castle Main St	5535.5	5539.9 2200	5541.3 4200	5541.4 5200	5544.2 9300
641.2	14 + 55	New Castle Main St	5535.5	5539.9 2200	5541.3 4200	5541.4 5200	5544.2 9300
642	14 + 85	Elk Cr	5535.7	5539.9 2200	5541.3 4200	5541.8 5200	5544.7 9300
643	19 + 05	Elk Cr	5540.5	5544.9 2200	5546.6 4200	5547.2 5200	5550.2 9300
644	22 + 55	Elk Cr	5544.9	5549.2 2200	5551.1 4200	5551.9 5200	5554.5 9300
645	29 + 45	Elk Cr	5554.1	5558.7 2200	5560.3 4200	5560.9 5200	5563.0 9300

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				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
648	36 + 45	Elk Cr	5562.8	5568.1 2200	5569.2 4200	5569.8 5200	5571.5 9300
649	44 + 85	Elk Cr	5574.4	5577.2 2200	5578.6 4200	5579.0 5200	5580.7 9300
650	58 + 85	Elk Cr	5592.1	5595.1 2200	5596.5 4200	5596.9 5200	5598.2 9300
651	68 + 45	Elk Cr	5600.9	5605.3 2200	5606.4 4200	5606.8 5200	5608.1 9300
652	79 + 75	Elk Cr at East Elk Cr	5616.1	5619.2 2180	5619.9 4000	5620.3 5100	5621.4 9100
653	87 + 75	Elk Cr	5622.7	5626.6 1900	5627.8 3450	5628.2 4380	5629.8 7700
654	94 + 95	Elk Cr	5629.8	5633.5 1900	5634.6 3450	5635.2 4380	5636.3 7700
655	102 + 55	Elk Cr	5636.9	5641.5 1900	5642.5 3450	5643.2 4380	5644.6 7700

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				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
656	113 + 75	Elk Cr	5645.5	5649.5 1900	5650.8 3450	5651.2 4380	5652.1 7700
657	122 + 55	Elk Cr	5653.3	5656.7 1900	5658.1 3450	5658.8 4380	5661.5 7700
658	130 + 50	Elk Cr	5659.5	5664.3 1900	5665.7 3450	5666.3 4380	5667.4 7700
659	136 + 10	Elk Cr	5663.8	5668.1 1900	5670.1 3450	5670.9 4380	5673.7 7700
660	136 + 35	Elk Cr	5664.0	5668.8 1900	5671.0 3450	5673.5 4380	5675.8 7700
661	136 + 95	Elk Cr	5665.3	5671.0 1900	5674.1 3450	5675.3 4380	5677.2 7700
662	143 + 20	Elk Cr	5670.5	5676.3 1900	5677.1 3450	5677.6 4380	5678.5 7700
663	150 + 00	Elk Cr	5677.8	5681.9 1900	5683.3 3450	5684.0 4380	5685.5 7700

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				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
664	155 + 30	Elk Cr	5682.7	5687.6 1900	5689.0 3450	5689.5 4380	5691.2 7700
665	167 + 50	Elk Cr	5695.8	5699.8 1900	5700.7 3450	5701.2 4380	5702.4 7700
666	174 + 30	Elk Cr	5698.5	5704.1 1900	5705.7 3450	5706.3 4380	5708.3 7700
667	180 + 10	Elk Cr	5705.4	5709.1 1900	5710.9 3450	5711.5 4380	5713.2 7700
668	185 + 40	Elk Cr	5710.2	5715.3 1900	5716.7 3450	5717.4 4380	5719.0 7700
669	191 + 20	Elk Cr	5714.6	5719.7 1900	5721.2 3450	5721.6 4380	5722.7 7700
670	201 + 80	Upper Study Limit	5722.3	5728.0 1900	5728.4 3450	5728.7 4380	5730.0 7700

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				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
652	79 + 75	Elk Cr at East Elk Cr	5616.1	5619.2 2180	5619.9 4000	5602.3 5100	5621.4 9100
671	88 + 15	East Elk Cr	5629.9	5634.4 1120	5635.4 1840	5636.0 2250	5637.3 3780
672.1	88 + 25	Private Road	5630.0	5634.6 1120	5637.4 1840	5637.7 2250	5638.5 3780
672.2	88 + 40	Private Road	5630.0	5634.6 1120	5637.6 1840	5637.9 2250	5638.9 3780
673	88 + 60	East Elk Cr	5630.1	5636.6 1120	5638.2 1840	5638.5 2250	5639.5 3780
674	93 + 00	East Elk Cr	5640.3	5644.2 1120	5645.2 1840	5645.6 2250	5646.4 3780
675	96 + 80	East Elk Cr	5649.5	5652.9 1120	5654.1 1840	5654.5 2250	5655.6 3780
676	104 + 80	Foot Bridge	5663.7	5667.5 1120	5669.1 1840	5669.4 2250	5670.1 3780

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				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
678	105 + 15	East Elk Cr	5665.2	5669.2 1120	5670.5 1840	5670.9 2250	5671.6 3780
679	116 + 55	East Elk Cr	5687.0	5690.1 1120	5691.1 1840	5691.6 2250	5693.4 3780
680	122+ 55	East Elk Cr	5697.4	5701.8 1120	5703.2 1840	5703.7 2250	5705.1 3780
681.1	122 + 70	Buford Road	5697.5	5702.2 1120	5703.2 1840	5703.7 2250	5705.9 3780
681.2	122 + 95	Buford Road	5697.5	5702.3 1120	5703.5 1840	5705.0 2250	5707.6 3780
682	123 + 35	East Elk Cr	5697.6	5703.1 1120	5705.0 1840	5706.5 2250	5709.8 3780
683	130 + 65	East Elk Cr	5713.7	5717.8 1120	5719.4 1840	5719.9 2250	5721.2 3780
684	136 + 35	East Elk Cr	5728.9	5731.8 1120	5732.7 1840	5733.2 2250	5734.8 3780

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				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
685	145 + 15	East Elk Cr	5751.7	5754.8 1120	5755.8 1840	5757.0 2250	5758.3 3780
686	152 + 15	East Elk Cr	5764.2	5767.1 1120	5767.9 1840	5768.1 2250	5769.3 3780
687.1	152 + 50	Private Road	5764.5	5768.7 1120	5771.4 1840	5771.8 2250	5772.7 3780
687.2	152 + 68	Private Road	5764.5	5769.9 1120	5772.8 1840	5773.3 2250	5774.5 3780
688	152 + 83	East Elk Cr	5765.7	5770.6 1120	5772.8 1840	5773.3 2250	5774.5 3780
689	158 + 63	East Elk Cr	5776.9	5780.0 1120	5781.0 1840	5781.4 2250	5783.7 3780
690.1	159 + 08	Private Road	5778.2	5781.4 1120	5782.6 1840	5783.2 2250	5786.0 3780
690.2	159 + 26	Private Road	5778.2	5781.5 1120	5784.9 1840	5785.4 2250	5787.3 3780

1/ Flood elevations pertain to the primary channel and usually remain constant in a lateral direction across the flood plain. However, flood elevations in the outer portions of a cross section may differ from the primary channel due to road crossings, upstream diversions, etc.

TABLE 1 FLOOD FREQUENCY-ELEVATION AND DISCHARGE DATA 1/

Cross Section Design-nation	Stationing from Lower Study Limit Feet (Meters)	Identification	Stream Bed Elevation Feet (Meters) N.G.V.D.	Crest-Elevation Feet National Geodetic Vertical Datum, and Peak Discharge c.f.s.			
				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
691	159 + 71	East Elk Cr	5780.3	5782.7 1120	5785.2 1840	5785.8 2250	5787.3 3780
692	160 36	East Elk Cr	5787.1	5790.3 1120	5791.4 1840	5791.9 2250	5793.7 3780
693	164 + 76	East Elk Cr	5792.3	5795.3 1120	5796.2 1840	5796.7 2250	5798.1 3780
694	165 + 16	Dam	5790.8	5795.5 1120	5796.4 1840	5796.9 2250	5798.2 3780
695	171 + 76	East Elk Cr	5802.9	5806.7 1120	5807.6 1840	5808.0 250	5809.3 3780
696.1	172 + 14	Private Road	5803.1	5807.0 1120	5808.5 1840	5810.5 2250	5812.1 3780
696.2	172 + 29	Private Road	5803.1	5807.5 1120	5808.7 1840	5810.6 2250	5812.2 3780
697	172 + 52		5804.0	5808.5 1120	5810.7 1840	5811.6 2250	5812.8 3780

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Cross Section Design-nation	Stationing from Lower Study Limit Feet (Meters)	Identification	Stream Bed Elevation Feet (Meters) N.G.V.D.	Crest-Elevation Feet National Geodetic Vertical Datum, and Peak Discharge c.f.s.			
				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
698	175 + 22	East Elk Cr	5806.8	5810.7 1120	5812.0 1840	5812.5 2250	5814.2 3780
699.1	175 + 42	Private Road	5807.0	5810.7 1120	5812.1 1840	5812.8 2250	5815.9 3780
699.2	175 + 57	Private Road	5807.0	5811.2 1120	5813.1 1840	5814.8 2250	5820.2 3780
700	175 + 92	East Elk Cr	5808.3	5812.4 1120	5814.5 1840	5815.9 2250	5820.2 3780
701	180 + 92	East Elk Cr	5815.2	5818.2 1120	5819.0 1840	5819.3 2250	5820.4 3780
702	186 + 32	East Elk Cr	5822.7	5826.4 1120	5826.9 1840	5827.1 2250	5827.9 3780
703.1	186 + 72	Private Road	5823.0	5826.8 1120	5828.1 1840	5828.8 2250	5831.7 3780
703.2	186 + 87	Private Road	5823.0	5826.8 1120	5829.5 1840	5830.0 2250	5832.3 3780

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TABLE 1 FLOOD FREQUENCY-ELEVATION AND DISCHARGE DATA 1/

Cross Section Design-nation	Stationing from Lower Study Limit Feet (Meters)	Identification	Stream Bed Elevation Feet (Meters) N.G.V.D.	Crest-Elevation Feet National Geodetic Vertical Datum, and Peak Discharge c.f.s.			
				10-Year Flood	50-Year Flood	100-Year Flood	500-Year Flood
704	187 + 12	East Elk Cr	5824.5	5828.1 1120	5830.6 1840	5831.2 2250	5832.7 3780
705	195 + 52	Upper Study Limit	5837.5	5841.2 1120	5841.9 1840	5842.3 2250	5842.9 3780

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